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MACHINE BOLTS.

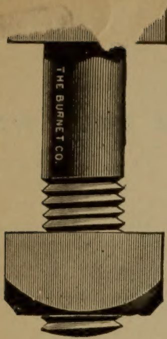
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Fig. 1.
Square Head,
Square Nut.

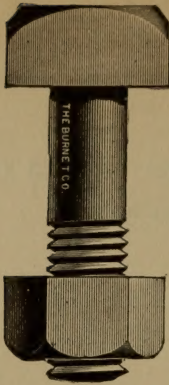
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Fig. 2.
Square Head,
Hexagon Nut.

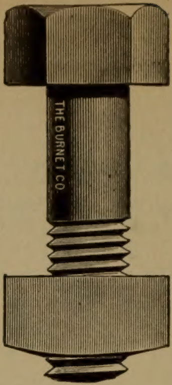
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Fig. 3.
Hexagon Head,
Square Nut.

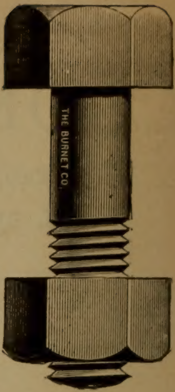
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Fig. 4.
Hexagon Head,
Hexagon Nut.

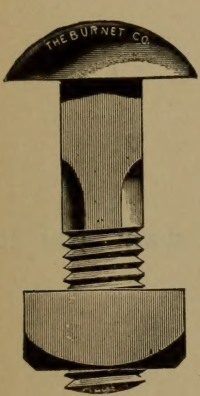
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Fig. 5.
Round Head,
Square Neck,
Square Nut.

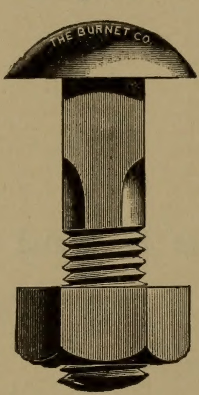
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Fig. 6.
Round Head,
Square Neck,
Hexagon Nut.

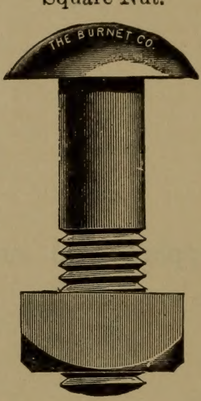
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Fig. 7.
Round Head,
Round Neck,
Square Nut.

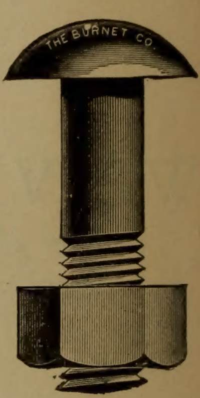
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Fig. 8.
Round Head,
Round Neck,
Hexagon Nut.

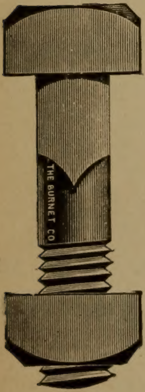
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Fig. 9.
Square Head,
Square Neck.

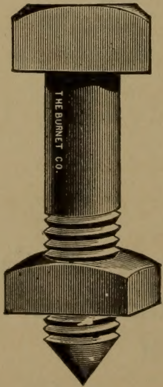
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Fig. 10.
Joint Bolt,
Oblong Nut.

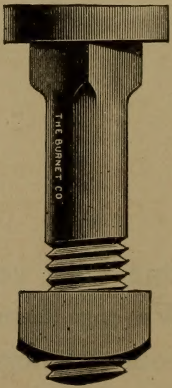
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Fig. 11.
Deck Bolt,
Square Nut.

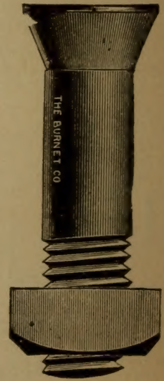
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Fig. 12.
Countersunk Head
Square Nut.

FOR PRICE LIST SEE PAGE 3.

Manufacturers' Standard List of

MACHINE BOLTS

With Square Heads and Square Nuts. Finished Points.

Adopted September 20, 1899, to take effect October 1, 1899.

Price per Hundred.

Length in ins.	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
$1\frac{1}{2}$	$1.70	$2.00	$2.40	$2.80	$3.60	$5.20	$7.20	$10.50	$15.10	$22.50	$30.00
2	1.78	2.12	2.56	3.00	3.86	5.58	7.70	11.20	16.00	23.70	31.50
$2\frac{1}{2}$	1.86	2.24	2.72	3.20	4.12	5.96	8.20	11.90	16.90	24.90	33.00
3	1.94	2.36	2.88	3.40	4.38	6.34	8.70	12.60	17.80	26.10	34.50
$3\frac{1}{2}$	2.02	2.48	3.04	3.60	4.64	6.72	9.20	13.30	18.70	27.30	36.00
4	2.10	2.60	3.20	3.80	4.90	7.10	9.70	14.00	19.60	28.50	37.50
$4\frac{1}{2}$	2.18	2.72	3.36	4.00	5.16	7.48	10.20	14.70	20.50	29.70	39.00
5	2.26	2.84	3.52	4.20	5.42	7.86	10.70	15.40	21.40	30.90	40.50
$5\frac{1}{2}$	2.34	2.96	3.68	4.40	5.68	8.24	11.20	16.10	22.30	32.10	42.00
6	2.42	3.08	3.84	4.60	5.94	8.62	11.70	16.80	23 20	33.30	43.50
$6\frac{1}{2}$	2.50	3.20	4.00	4.80	6.20	9.00	12.20	17.50	24.10	34.50	45.00
7	2.58	3.32	4.16	5.00	6.46	9.38	12.70	18.20	25.00	35.70	46.50
$7\frac{1}{2}$	2.66	3.44	4.32	5.20	6.72	9.76	13.20	18.90	25.90	36.90	48.00
8	2.74	3.56	4.48	5.40	6.98	10.14	13.70	19,60	26.80	38,10	49.50
9	2.90	3.80	4.80	5.80	7.50	10.90	14.70	21.00	28.60	40.50	52.50
10	3.06	4.04	5.12	6.20	8.02	11.66	15.70	22.40	30.40	42.90	55.50
11	3.22	4.28	5.44	6.60	8.54	12.42	16.70	23.80	32.20	45.30	58.50
12	3.38	4.52	5.76	7.00	9.06	13.18	17.70	25.20	34.00	47.70	61.50
13	...	...	6.08	7.40	9.58	13.94	18.70	26.60	35 80	50.10	64.50
14	...	...	6.40	7.80	10.10	14.70	19.70	28.00	37.60	52.50	67.50
15	...	...	6.72	8.20	10.62	15.46	20 70	29.40	39.40	54.90	70.50
16	...	...	7.04	8.60	11.14	16.22	21.70	30.80	41.20	57.30	73.50
17	...	...	...	...	11.66	16.98	22.70	32.20	43.00	59.70	76.50
18	...	...	...	...	12.18	17.74	23.70	33.60	44.80	62.10	79.50
19	...	...	...	...	12,70	18.50	24.70	35.00	46.60	64.50	82.50
20	...	...	...	...	13.22	19.26	25.70	36.40	48.40	66.90	85.50
21	...	...	...	...	...	...	26.70	37.80	50.20	69.30	88.50
22	...	...	...	...	...	...	27.70	39.20	52.00	71.70	91.50
23	...	...	...	...	...	...	28.70	40.60	53.80	74.10	94.50
24	...	...	...	...	...	...	29.70	42.00	55.60	76.50	97.50
25	...	...	...	...	...	...	30.70	43.40	57.40	78.90	100.50
26	...	...	...	...	...	...	31.70	44.80	59.20	81.30	103.50
27	...	...	...	...	...	...	32.70	46 20	61.00	83.70	106.50
28	...	...	...	...	...	...	33.70	47.60	62.80	86.10	109.50
29	...	...	...	...	...	...	34.70	49.00	64.60	88.50	112.50
30	...	...	...	...	...	...	35.70	50.40	66.40	90.90	115.50

The following extras are to be understood as a part of the Machine Bolt List: Bolts with Hexagon Heads or Hexagon Nuts, 10 per cent. extra. If both Hexagon Heads and Hexagon Nuts, 20 per cent. extra. Joint Bolts with Oblong Nuts and Bolts with Tee Heads, 10 per cent. extra.

Please state on order whether Cold Punched C & T Nuts or Hot Pressed Nuts are required. All Countersunk Head Bolts are made at an angle of 35 degrees unless otherwise ordered.

Manufacturers' Standard List of

NET PRICES FOR EXTRA LENGTH OF THREAD AND EXTRA NUTS.

Adopted September 20, 1899, to take effect October 1, 1899.

Size of bolt - - in inches -	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Extreme length of Thread in inches -	$\frac{3}{4}$	$\frac{15}{16}$	$1\frac{1}{8}$	$1\frac{5}{16}$	$1\frac{1}{2}$	$1\frac{7}{8}$	$2\frac{1}{4}$	$2\frac{5}{8}$	3
For each additional $\frac{1}{4}$ inch of Thread, per 100 Bolts - - - -	$0.02	$0.02	$0.02$\frac{1}{2}$	$0.03	$0.04	$0.06	$0.08	$0.10	$0.12
For one extra Square Nut, per 100 Bolts	.25	.35	.45	.55	.65	.85	1.35	2.00	3.00
For one extra Hexagon Nut, per 100 Bolts	.35	.45	.55	.70	.85	1.15	1.75	2.50	3.60

All Bolts are U. S. Standard, unless otherwise ordered. For illustrations see page 2.

AVERAGE WEIGHT PER 100 OF MACHINE BOLTS, WITH SQUARE HEADS AND NUTS.

LENGTHS OF BOLTS UNDER HEAD / Dia	¼	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼	1⅜	1½
1½	3.4	5.9	8.75	13.	18.2	25.	33.	52.	76	111	171	235	. .	. .
2	4	7.	10.	15.	20.8	28.	37.	57.	84	121½	185	252	. .	. .
2½	4.7	8.	11.4	17.	23.4	31.5	40.9	62.9	92½	132	199	270	. .	. .
3	5.4	9.	12.8	19.	26.	35.	44.8	68.8	101	142½	213	287	350	480
3½	6.1	10.	14.2	21.	28.6	38.5	48.7	74.7	109	153	227	303	370	500
4	6.8	11.1	15.6	23.	31.2	42.	52.6	80.6	117½	163½	241	319	390	520
4½	7.5	12.1	16.9	25.	33.8	45.5	56.5	86 5	126	174	255	335	410	545
5	8.1	13.3	18.2	27.	36.4	49.	60.5	92.4	134	184½	269	351	430	570
5½	8.7	14.5	19.6	29.	39.	52.5	64.4	98.3	142	195	283	367	450	595
6	9.4	15.5	21.	31.	41.6	56.	68.3	104.2	150½	205½	297	383	470	620
6½	10.	16.5	23.5	33.	44.2	59.5	72.2	110.1	158	216	311	400	490	645
7	10.6	17.5	24.	35.	46.8	63.	76.2	116.	167	226½	325	416	510	670
7½	11.3	18.5	25.5	37.5	49.4	66.5	80.1	121.9	175	237	339	432	530	695
8	11.9	19.5	27.	40.	52.	70.	84.	127.8	183½	247½	353	449	550	725
8½	. .	. .	28.5	42.2	54.6	73.5	87.9	133 7	192	258	367	466	570	750
9	. .	. .	30.	44.4	57.3	77.	91.9	139.6	200	268½	381	483	590	775
9½	. .	. .	31.5	46.6	60.	80.5	95.8	145.5	208½	279	395	500	610	800
10	. .	. .	33.	48.8	62 6	84.	99.7	151.4	216½	290	409	517	630	825
11	. .	. .	35½	53.2	67.8	91.	107.6	163.2	233	311	437	550	670	875
12	. .	. .	37.	57.6	73.	98.	115.5	175.	250	332	465	583	700	925
13	. .	. .	. .	. .	78.2	105.	123.4	186.8	266	353	493	616	751	975
14	. .	. .	. .	. .	83.4	112.	131.2	198.6	283	374	521	650	793	1025
15	. .	. .	. .	. .	88.6	119.	139.	210 4	299	395	549	683	835	1075
16	. .	. .	. .	. .	93.8	126.	146.9	222.2	316	416	577	717	877	1125
17	. .	. .	. .	. .	99.	133.	154.7	234.	332	437	605	750	919	1175
18	. .	. .	. .	. .	104.2	140.	162.6	245.8	349	458	633	783	961	1225
19	. .	. .	. .	. .	109.4	147.	170.4	257.6	365	479	661	817	1003	1275
20	. .	. .	. .	. .	114.6	154.	178.2	269.4	382	500	689	850	1045	1325

DIMENSIONS OF BOLT HEADS

As adopted by the

NATIONAL ASSOCIATION OF BOLT MANUFACTURERS.

Diameter of Bolt	Square and Hexagon Heads	Button Heads and Carriage Bolt Heads	Tee Heads	Square Countersunk and Round Countersunk	Forged Set Screws
	Width and Thickness	Width and Thickness	Length, Width and Height	Width and Height	Width and Height
¼	⅜ x 3/16	½ x ⅛	½ x ¼ x 3/16	½ x 3/16	5/16 x ¼
5/16	15/32 x ¼	⅝ x 5/32	⅝ x 5/16 x ¼	19/32 x 3/16	⅜ x 5/16
⅜	9/16 x 5/16	¾ x 3/16	¾ x ⅜ x 5/16	11/16 x 7/32	7/16 x ⅜
7/16	21/32 x ⅜	⅞ x 7/32	⅞ x 7/16 x ⅜	25/32 x ¼	17/32 x 7/16
½	¾ x 7/16	1 x ¼	1 x ½ x 7/16	⅞ x ¼	⅝ x ½
9/16	27/32 x ½	1⅛ x 9/32	1⅛ x 9/16 x ½	31/32 x 9/32	11/16 x 9/16
⅝	15/16 x 17/32	1¼ x 5/16	1¼ x ⅝ x 17/32	1 1/16 x 5/16	¾ x ⅝
¾	1⅛ x ⅝	1½ x ⅜	1½ x ¾ x ⅝	1¼ x 11/32	15/16 x ¾
⅞	1 5/16 x ¾	1¾ x 7/16	1¾ x ⅞ x ¾	1 7/16 x 13/32	1⅛ x ⅞
1	1½ x ⅞	2 x ½	2 x 1 x ⅞	1⅝ x 7/16	1¼ x 1
1⅛	1 11/16 x 1	2¼ x 9/16			
1¼	1⅞ x 1⅛	2½ x ⅝			
1⅜	2 1/16 x 1¼				
1½	2¼ x 1⅜				

The heads of Lag Screws, Skein Screws and Tap Bolts will be made of same dimensions as given above for Square Head Bolts.

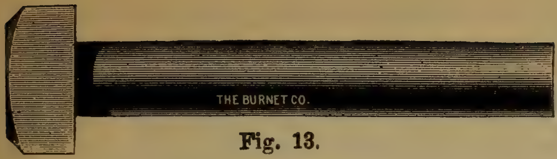


Fig. 13.

Manufacturers' Standard List of
BLANK BOLTS
With Either Square or Round Heads. Finished Points.

PRICE PER 100.

Diameter. LENGTH IN INCHES.	1/4	5/16	3/8	7/16	1/2	9/16 & 5/8	3/4	7/8	1
1½ - - -	$1.20	$1.40	$1.60	$2.00	$2.50	$4 00	$5.60	$7.80	$10.40
2 - - -	1.30	1.52	1.74	2.18	2.74	4.36	6.10	8.50	11.30
2½ - - -	1.40	1.64	1.88	2.36	2.98	4.72	6.60	9.20	12.20
3 - - -	1.50	1.76	2.02	2.54	3.22	5.08	7.10	9.90	13.10
3½ - - -	1.60	1.88	2.16	2.72	3.46	5.44	7.60	10.60	14.00
4 - - -	1.70	2.00	2.30	2.90	3.70	5.80	8.10	11.30	14.90
4½ - - -	1.80	2.12	2.44	3.08	3.94	6.16	8.60	12.00	15.80
5 - - -	1.90	2.24	2.58	3.26	4.18	6.52	9.10	12.70	16.70
5½ - - -	2.00	2.36	2.72	3.44	4.42	6.88	9.60	13.40	17.60
6 - - -	2.10	2.48	2.86	3.62	4.66	7.24	10.10	14.10	18.50
6½ - - -	2.20	2.60	3.00	3.80	4.90	7.60	10.60	14 80	19.40
7 - - -	2.30	2 72	3.14	3.98	5.14	7.96	11.10	15.50	20.30
7½ - - -	2.40	2.84	3.28	4.16	5.38	8.32	11.60	16.20	21 20
8 - - -	2.50	2.96	3.42	4.34	5.62	8.68	12.10	16.90	22 10
9 - - -	2.70	3.20	3.70	4.70	6 10	9.40	13.10	18.30	23.90
10 - - -	2.90	3 44	3.98	5.06	6.58	10.12	14 10	19.70	25.70
11 - - -	3 10	3.68	4.26	5.42	7.06	10.84	15.10	21.10	27.50
12 - - -	3.30	3.92	4 54	5.78	7.54	11.56	16.10	22.50	29.30
13 - - -	. .	. .	4 82	6.14	8.02	12.28	17.10	23.90	31.10
14 - - -	. .	. .	5.10	6.50	8.50	13.00	18.10	25.30	32.90
15 - - -	.	. .	5.38	6 86	8.98	13.72	19.10	26.70	34.70
16 - - -	. .	. .	5.66	7 22	9.46	14.44	20.10	28.10	36.50
17 - - -	. .	. .	. .	. .	9.94	15.16	21.10	29.50	38.30
18 - - -	. .	. .	. .	. .	10.42	15 88	22.10	30.90	40.10
19 - - -	.	.	. .	. .	10.90	16 60	23.10	32.30	41.90
20 - - -	. .	. .	. .	. .	11.38	17.32	24.10	33.70	43.70

The following extras are to be understood as a part of this list:

Blank Bolts with Hexagon Heads, Tee Heads, Askew Heads, and Eccentric Heads, 10 per cent. extra.

WEIGHT OF SQUARE HEAD BLANK BOLTS.

Average Weight per Hundred.

Diam.	3/8	7/16	1/2	5/8	3/4	7/8	1	1⅛	1¼	1½
¾	5.6	8.7	11.2	. .	. .	. .	. .	. .	. .	. .
1	6.4	9.7	12.6	23.	. .	. .	. .	. .	. .	. .
1¼	7.2	10.7	14.	24.9	39.5	. .	. .	. .	. .	. .
1½	8.	11.7	15.4	27.1	42.5	63.	. .	. .	. .	. .
1¾	8.8	12.7	16.8	29.	45.5	67.	90	. .	. .	. .
2	9.6	13.7	18.2	31.	48.5	71.	95	. .	. .	. .
2¼	10.4	14.7	19.6	33.	51.5	75.2	100	141	.	. .
2½	11.2	15.7	21.	35.	54.5	79.4	105	149	. .	. .
2¾	12.	16.7	22.4	37.	57.5	83.7	110	157	. .	. .
3	12.8	17.7	23.8	39.	60.5	88.	115	165	215	370
3½	14.4	19.7	26.6	43.5	66.5	96.3	125	180	232	392
4	16.	21.7	29.4	48.	72.7	104.5	136	195	249	414
4½	17.5	23.7	31.2	52.5	78.9	112.8	147	210	266	437
5	19.	25.7	35.	56.5	85.1	121.	158	225	283	461
5½	20.5	27.7	37.8	60.5	91.3	129.3	169	240	300	485
6	22.	29.7	40.6	64.6	97.5	137.5	180	265	317	510
7	25.	33.7	46.	72.8	109.	154.	202	290	351	560
8	28.	37.7	51.5	81.	121.	171.	223	315	386	610
9	. .	41.7	56.7	89.	133.	188.	245	340	420	660
10	. .	45.7	62.	97.	145.	205.	267	365	453	710
11	. .	. .	67.5	105.	157.	222.	288	390	488	760
12	.	. .	73.	114.	170.	239.	310	415	523	810

Manufacturers' Standard List of

BOLT ENDS.

Fitted with Square Nuts.

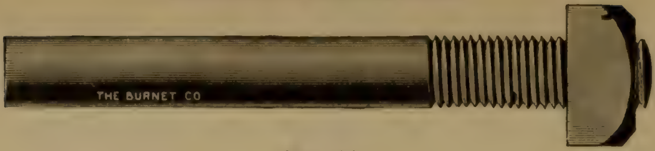


Fig. 14.

Size of iron,	5-16	⅜	7-16	½	⅝	¾	⅞	1
Length in inches,	6	7	7	8	9	10	11	12
Approximate weight of 100,	15½	24¼	33½	50	85	143	211	308
List price per pound,	$0.20	.18	.16	.14	.12	.10	.10	.10
Size of iron,	1⅛	1¼	1⅜	1½	1⅝	1¾	1⅞	2
Length in inches,	13	14	15	16	17	18	19	20
Approximate weight of 100,	423	568	732	937	1162	1429	1731	2075
List price per pound,	$0.10	.11	.11	.11	.12	.12	.12	.12

Upset or enlarged ends at special prices. Bolt Ends with Hexagon Nuts, 10 per cent extra. Bolt Ends cut with right or left hand threads. Bolt Ends ordered shorter than above standard lengths, will be charged at the price per hundred of machine bolts of same length, subject to same discount. Wood Screw Ends cut to order at special prices.

PLOW BOLTS.

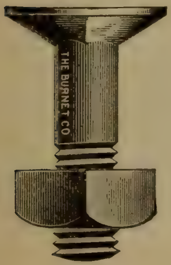


Fig. 15.

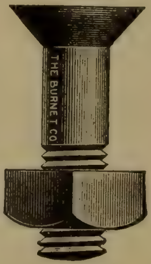


Fig. 16.

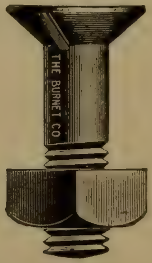


Fig 17.

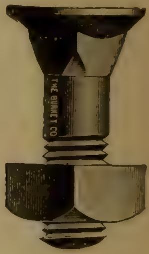


Fig. 18.

Price per Hundred—Finished Points, Right or Left Hand Thread.

Length over all	¼ & 5/16	⅜	7/16	½	9/16 & ⅝	¾
1¼ inches.	1.70	2.00	2.60	3.00	4.50	7.00
1½ "	1.80	2.10	2.75	3.00	4.50	7.00
1¾ "	1.90	2.20	2.90	3.15	4.75	7.50
2 "	2.00	2.30	3.05	3.30	5.00	8.00
2¼ "	2.10	2.40	3.20	3.45	5.25	8.50
2½ "	2.20	2.50	3.35	3.60	5.25	8.50
2¾ "	2.30	2.60	3.50	3.75	5.50	9.00
3 "	2.40	2.70	3.65	3.90	5.50	9.00
3¼ "	2.50	2.80	3.80	4.05	5.75	9.50
3½ "	2.60	2 90	3.95	4.20	5.75	9.50
3¾ "	2.70	3.00	4.10	4.35	6.00	10.00
4 "	2.80	3.10	4.25	4.50	6.00	10.00
4½ "	3.00	3.35	4.55	4 80	6.30	10.50
5 "	3.25	3.60	4.85	5.15	6 60	11.00
5½ "	. .	. .	5.20	5.50	7 00	11.50
6 "	. .	. .	5.55	5.85	7.50	12.00
7 "	. .	. .	. .	6.60	8.50	13.00
8 "	. .	. .	. .	7.30	9.50	14.00

Unless otherwise specified, Fig. 16 Bolt will be furnished.

BRIDGE AND ROOF BOLTS.

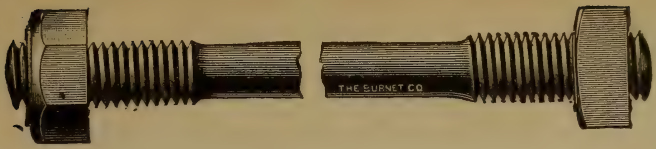


Fig. 19.

Price per Pound, with Both Ends Upset and Fitted with Hexagon Nuts.

Length.	¾ to 1⅛ Diam.	1¼ to 1½ Diam.	1⅝ to 2 Diam.	2⅛ to 3 Diam.
4 to 8 feet	.12.0 cts.	.12.4 cts.	.13.2 cts.	.14.4 cts.
8 to 12 "	.11.0 "	.11.4 "	.12.2 "	.13.2 "
12 to 16 "	.10.0 "	.10.4 "	.11.2 "	.12.4 "
16 to 20 "	.09.2 "	.09.6 "	.10.4 "	.11.6 "

Dimensions of Upset Ends on Round Iron.

Diam. of Bar.	Diam. of Upset.	Length of Upset.	Threads per Inch.	Diam. of Bar.	Diam. of Upset.	Length of Upset.	Threads per Inch.
¾	1	2¾	8	1¾	2⅛	5½	4½
⅞	1⅛	3	7	1⅞	2¼	5¾	4½
1	1¼	3¼	7	2	2⅜	6	4
1⅛	1⅜	3½	6	2⅛	2½	6½	4
1¼	1½	4	6	2¼	2⅝	6¾	4
1⅜	1¾	4½	5	2⅜	2¾	7	4
1½	1⅞	5	5	2½	2⅞	7½	3½
1⅝	2	5¼	5½	2⅝	3	8	3½

We are prepared to make Upset rods up to 3 in. diameter from best refined iron or steel, possessing all the standard requisites as to tensile strength, elastic limit and elongation.

BRIDGE AND ROOF BOLTS.

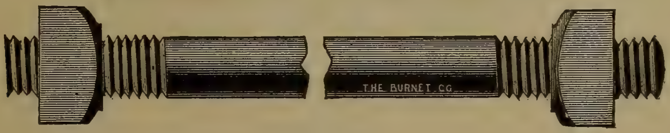


Fig. 20.

Price per Pound, with Square Head on One End and Square Nut on the Other, or Square Nut on Each End, as Preferred.

Length.	⅝ Diam.	¾ to 1⅛ Diam.	1¼ to 1½ Diam.	1⅝ to 2 Diam.
20 inches to 4 feet	.09.2	.08.8	.09.2	.10.0
4 feet to 8 "	.08.8	.08.4	.08.8	.09.4
8 " to 12 "	.08.4	.08.0	.08.4	.08.8
12 " to 20 "	.08.0	.07.6	.08.0	.08.4

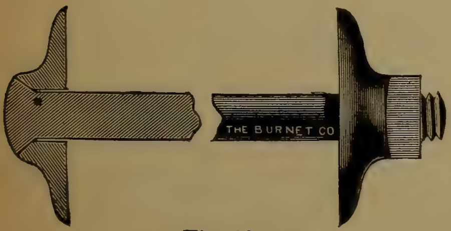


Fig. 21.

STRUCTURAL BOLTS.

We make structural bolts, with the necessary wrought or cast washers; also bolts with countersunk heads to fit into cast header washers, as shown in cut. Prices quoted on receipt of specifications.

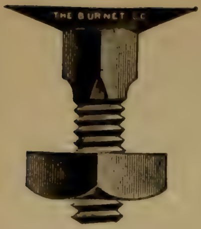


Fig. 22
Countersunk Head.

BELT OR ELEVATOR BOLTS.

The Countersunk Heads will always be sent unless specially ordered otherwise.

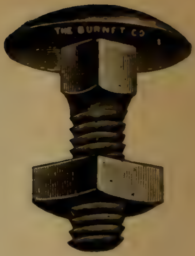


Fig. 23
Button Head.

Diameter.	Length	Price per 100.
¼	¾	$3.00
¼	1	3.25
¼	1¼ or 1½	3.50
5/16	1	3.50
5/16	1¼ or 1½	3.75
5/16	1¾ or 2	4.00
⅜	1¼	4.20
⅜	1½	4.50
⅜	1¾	4.80
⅜	2	5.10

STUD BOLTS.

Rough Iron, Without Nuts.

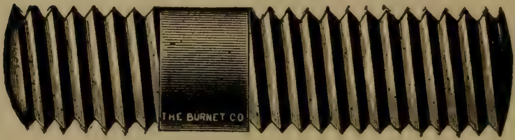


Fig. 24.

Price Per 100.

	Diam.	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼	1⅜
	No. Threads	16	14	13	12	11	10	9	8	7	7	6
LENGTH OVER ALL.	1¼	$3.35	$4.05	$4.40	$5.10	. .	. .	. .	. .	. .	. .	. .
	1½	3.50	4.20	4.60	5.30	$6.10	. .	. .	. .	. .	. .	. .
	1¾	3.65	4.35	4.80	5.50	6.30	. .	. .	. .	. .	. .	. .
	2	3.80	4.50	5.00	5.70	6.50	$8.80	. .	. .	. .	. .	. .
	2¼	3.95	4.65	5.20	5.90	6.70	9.10	. .	. .	. .	. .	. .
	2½	4.10	4.80	5.40	6.10	6.90	9.40	$12.00	. .	. .	. .	. .
	2¾	4.25	4.95	5.60	6.30	7.10	9.70	12.50	. .	. .	. .	. .
	3	4.40	5.10	5.80	6.50	7.30	10.00	13.00	$17.00	$21.00	. .	. .
	3¼	. .	5.25	6.00	6.70	7.50	10.30	13.50	17.75	22.00	. .	. .
	3½	. .	5.40	6.20	6.90	7.70	10.60	14.00	18.50	23.00	$27.00	. .
	3¾	. .	. .	6.40	7.10	7.90	10.90	14.50	19.25	24.00	28.00	. .
	4	. .	. .	6.60	7.30	8.10	11.20	15.00	20.00	25.00	29.00	$33.00
	4½	. .	. .	. .	7.50	8.40	11.65	15.75	21.00	26.50	30.50	34.50
	5	. .	. .	. .	7.70	8.70	12.10	16.50	22.00	28.00	32.00	36.00
	5½	. .	. .	. .	. .	9.00	12.55	17.25	23.00	29.50	33.50	37.50
	6	. .	. .	. .	. .	9.30	13.00	18.00	24.00	31.00	35.00	39.00

STUD BOLTS.

Rough Iron, with Chamfered and Trimmed Hexagon Nuts.

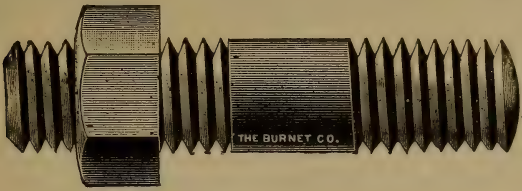


Fig. 25.

Price per 100.

	Diameter.	3/8	7/16	½	9/16	5/8	¾	7/8	1
	No. Threads.	16	14	13	12	11	10	9	8
LENGTH OVER ALL.	1½	$4.00	$5.10	$5.50	. .	. .	. .	. .	. .
	1¾	4.10	5.25	5.65	. .	. .	. .	. .	. .
	2	4.20	5.40	5.80	$8.50	$8.50	$12.40	. .	. .
	2¼	4.30	5.55	5.95	8.75	8.75	12.70	. .	. .
	2½	4.40	5.70	6.10	9.00	9.00	13.00	$18.00	. .
	2¾	4.50	5.85	6.25	9.25	9.25	13.30	18.50	. .
	3	4.60	6.00	6.40	9.50	9.50	13.60	19.00	$27.80
	3¼	4.70	6.15	6.55	9.75	9.75	13.90	19.50	28.40
	3½	4.80	6.30	6.70	10.00	10 00	14.20	20.00	29.00
	3¾	4.90	6.45	6.85	10.25	10.25	14.50	20 50	29.60
	4	5.00	6 60	7.00	10.50	10 50	14.80	21.00	30 20
	4½	5 25	6.90	7.30	11.00	11.00	15.40	22.00	31.40
	5	. .	. .	7.60	11.50	11.50	16.00	23.00	32.60
	5½	. .	. .	8.00	12.00	12.00	16.60	24 00	33.80
	6	. .	. .	8.45	12.50	12.50	17.20	25.00	35.00
	7	. .	. .	. .	13.60	13 60	18.60	27.00	37.50
	8	. .	. .	. .	14.80	14.80	20.10	29.10	40.10

Milled Studs, 15 per cent. extra. In ordering give length of thread wanted on each end and length of body.

WEIGHT OF COMMON CARRIAGE BOLTS.

Average Weight per Hundred.

	Dia.	¼	5/16	3/8	7/16	½	5/8		Dia	¼	5/16	3/8	7/16	½	5/8
LENGTH, INCHES.	1	2.8	4.8	6.9	9.4	14.5	28.0	LENGTH, INCHES.	6	9.0	13.8	20.8	29.3	42.0	68.0
	1¼	3.1	5.2	7.6	10.4	15.9	30.0		6½	9.7	14.7	21.2	31.2	44.8	72.0
	1½	3.4	5.7	8.3	11.4	17.3	32.0		7	10.3	15.6	23.6	33.2	47.5	76.0
	1¾	3.7	6.1	9.0	12.4	18.6	34.0		7½	10.9	16.5	25.0	35.2	50.3	80.0
	2	4.0	6.6	9.7	13.3	20.0	36.0		8	11.6	17.4	26.4	37.2	53.0	84.0
	2¼	4.4	7.0	10.4	14.3	21.4	38.0		8½	. .	18.4	27.8	39.2	55.8	88.0
	2½	4.7	7.5	11.1	15.3	22.8	40.0		9	. .	19.8	29.2	41.2	58.5	92.0
	2¾	5.0	7.9	11.8	16.3	24.2	42.0		9½	. .	20.2	30.6	43.1	61.3	96.0
	3	5.3	8.4	12.5	17.3	25.5	44.0		10	. .	21.0	32.0	45.1	64.0	100.0
	3½	5.9	9.3	13.9	19.3	28.3	48.0		10½	. .	. .	33.4	47.1	66.8	104.0
	4	6.6	10.2	15.3	21.3	31.0	52.0		11	. .	. .	34.8	49.1	69.5	108.0
	4½	7.2	11.1	16 7	23.3	33.8	56.0		11½	. .	. .	36.2	51.0	72.3	112 0
	5	7.8	12.0	18.0	25.3	36.5	60.0		12	. .	. .	37 5	53.0	75 0	116 0
	5½	8.4	12.9	19.4	27.3	39.3	64.0								

COMMON CARRIAGE BOLTS.

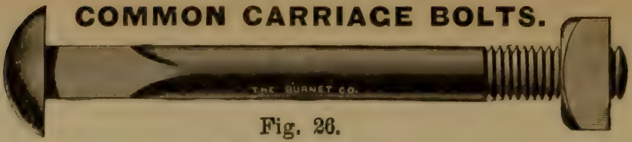

THE BURNET CO.

Fig. 26.

Price per 100.

LENGTH IN INCHES.

Diameter	1/4	5/16	3/8	7/16	1/2	9/16 & 3/8	3/4
1½	$1.00	$1.20	. .	. .	. .	. .	. .
1¾	1.04	1.25	. .	. .	. .	. .	. .
2	1 08	1.30	$1.50	$2.20	. .	. .	. .
2¼	1.12	1.35	1.57	2.28	. .	. .	. .
2½	1.16	1.40	1.64	2.36	. .	. .	. .
2¾	1.20	1.45	1.71	2.44	. .	. .	. .
3	1.24	1.50	1.78	2.52	$3.00	$5.00	$7.20
3¼	1.28	1.55	1.85	2.60	3.10	5.15	7.40
3½	1.32	1.60	1.92	2.68	3.20	5.30	7.60
3¾	1.36	1.65	1.99	2.76	3.30	5.45	7.80
4	1.40	1.70	2.06	2.84	3.40	5.60	8.00
4¼	1.44	1.75	2.13	2.92	3.50	5.75	8.20
4½	1.48	1.80	2.20	3.00	3.60	5.90	8.40
4¾	1.52	1.85	2.27	3.08	3.70	6.05	8.60
5	1.56	1.90	2.34	3.16	3.80	6.20	8.80
5½	1.64	2.00	2.48	3.32	4.00	6.50	9.20
6	1.72	2.10	2.62	3.48	4.20	6.80	9.60
6½	1.80	2.20	2.76	3.64	4.40	7.10	10.00
7	1.88	2.30	2.90	3.80	4.60	7.40	10.40
7½	1.96	2.40	3.04	3.96	4.80	7.70	10.80
8	2.04	2.50	3.18	4.12	5.00	8.00	11.20
8½	2.12	2.60	3.32	4.28	5.20	8.30	11.60
9	2.20	2.70	3.46	4.44	5.40	8.60	12.00
9½	2.28	2.80	3.60	4.60	5.60	8.90	12.40
10	2.36	2.90	3.74	4.76	5.80	9.20	12.80
11	2.52	3.10	4.02	5.08	6.20	9.80	13.60
12	2.68	3.30	4.30	5.40	6.60	10.40	14.40
13	2.84	3.50	4.58	5.72	7.00	11.00	15.20
14	3.00	3.70	4.86	6.04	7.40	11.60	16.00
15	3.16	3.90	5.14	6.36	7.80	12.20	16.80
16	3.32	4.10	5.42	6.68	8.20	12.80	17.60
17	3.48	4.30	5.70	7.00	8.60	13.40	18.40
18	3.64	4.50	5.98	7.32	9.00	14.00	19.20
19	3.80	4.70	6.26	7.64	9.40	14.60	20.00
20	3.96	4.90	6.54	7.96	9.80	15.20	20.80

COMMON TIRE BOLTS.

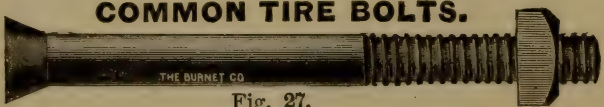


Fig. 27.

Price per 100.

LENGTH, INCHES.

Dia.	3/16	1/4	5/16	3/8
1	$0.60	$0.80	. .	. .
1¼	.60	.80	. .	. .
1½	.60	.80	$1.10	. .
1¾	.65	.85	1.10	. .
2	.70	.90	1.17	$2.20
2¼	.75	.95	1.24	2.30
2½	.80	1.00	1.31	2.40
2¾	.85	1.05	1.38	2.50
3	.90	1.10	1.45	2.60

LENGTH, INCHES.

Dia.	3/16	1/4	5/16	3/8
3¼	$0.95	$1.15	$1.52	$2.70
3½	1.00	1.20	1.59	2.80
3¾	1.05	1.25	1.66	2.90
4	1.10	1.30	1.73	3.00
4½	. .	1.40	1.87	3 20
5	. .	1.50	2.01	3 40
5½	. .	. .	2.15	3 60
6	. .	. .	2.29	3.80

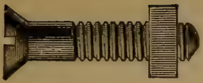


Fig. 28

STOVE BOLTS.

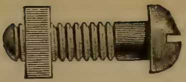


Fig. 29

FLAT HEAD. Price Per Hundred.					
Length	$\frac{1}{8}$ $\frac{5}{32}$ & $\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
$\frac{3}{8}$	$0.75	. .	. .	. .	. .
$\frac{1}{2}$	.75	$0.80	$0.85	. .	. .
$\frac{5}{8}$	.75	.80	.85	. .	. .
$\frac{3}{4}$	.75	.80	.85	$1.20	$2.25
$\frac{7}{8}$	.80	.85	.90	1.30	2.30
1	.80	.85	.90	1.30	2.35
$1\frac{1}{8}$	.85	.90	.95	1.40	2.45
$1\frac{1}{4}$	.85	.90	.95	1.40	2.45
$1\frac{3}{8}$	.90	.95	1.00	1.50	2.55
$1\frac{1}{2}$	.90	.95	1.00	1.50	2.55
$1\frac{3}{4}$	.95	1.00	1.05	1.55	2.65
2	1.00	1.05	1.10	1.60	2.75
$2\frac{1}{4}$	1 05	1.10	1.15	1.65	2.85
$2\frac{1}{2}$	1.10	1.15	1.20	1.70	2.95
$2\frac{3}{4}$	1.15	1.20	1.25	1.75	3.05
3	1.20	1.25	1.30	1.80	3.15
$3\frac{1}{4}$	1.25	1.30	1.35	1.85	3.25
$3\frac{1}{2}$	1.30	1.35	1.40	1.90	3.35
$3\frac{3}{4}$	1.35	. .	1.45	1.95	3.45
4	1.40	. .	1.50	2.00	3.55
$4\frac{1}{4}$	1.45	. .	1.55	2.05	3.65
$4\frac{1}{2}$	1.50	. .	1.60	2.10	3.75
$4\frac{3}{4}$	1.55	. .	1.65	2.15	3.85
5	1.60	. .	1.70	2.20	3.95
$5\frac{1}{4}$	1.65	. .	1.75	2.25	4.05
$5\frac{1}{2}$	1.70	. .	1.80	2.30	4.15
$5\frac{3}{4}$	1.75	. .	1.85	2.35	4.25
6	1.80	. .	1.90	2.40	4.35

ROUND HEAD. Price Per Hundred.					
Length	$\frac{1}{8}$ $\frac{5}{32}$ & $\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
$\frac{3}{8}$	$0.85	$0.90	. .	. .	. .
$\frac{1}{2}$	.85	.90	$0.95	. .	. .
$\frac{5}{8}$	.85	.90	.95	. .	. .
$\frac{3}{4}$	.85	.90	.95	$1.35	$2.50
$\frac{7}{8}$	.90	.95	1.00	1.40	2.55
1	.90	.95	1.00	1.45	2.60
$1\frac{1}{8}$	.95	1.00	1.05	1.50	2.65
$1\frac{1}{4}$	.95	1.00	1.05	1.55	2.70
$1\frac{3}{8}$	1.00	1.05	1.10	1.60	2.75
$1\frac{1}{2}$	1.00	1.05	1.10	1.65	2.80
$1\frac{3}{4}$	1.05	1.10	1.15	1.70	2.85
2	1.10	1.15	1.20	1.75	2.90
$2\frac{1}{4}$	1.15	1.20	1.25	1.80	3.00
$2\frac{1}{2}$	1.20	1.25	1.30	1.85	3.10
$2\frac{3}{4}$	1.25	1.30	1.35	1.90	3.20
3	1.30	1.35	1.40	1.95	3.30
$3\frac{1}{4}$	1.35	1.40	1.45	2.00	3.40
$3\frac{1}{2}$	1.40	1.45	1.50	2.05	3.50
$3\frac{3}{4}$	1.45	. .	1.55	2.10	3.60
4	1.50	. .	1.60	2.15	3.70
$4\frac{1}{4}$	1.55	. .	1.65	2.20	3.80
$4\frac{1}{2}$	1.60	. .	1.70	2.25	3.90
$4\frac{3}{4}$	1.65	. .	1.75	2.30	4.00
5	1.70	. .	1.80	2.35	4.10
$5\frac{1}{4}$	1.75	. .	1.85	2.40	4.20
$5\frac{1}{2}$	1.80	. .	1.90	2.45	4.30
$5\frac{3}{4}$	1.85	. .	1.95	2.50	4.40
6	1.90	. .	2.00	2.55	4.50

Nickel Plated Stove Bolts, add One Dollar to above List Prices.

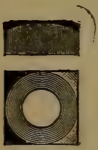
DISCOUNTS.

FLAT HEAD - - - per cent. | FLAT HEAD, Nickel Plated - per cent.
ROUND HEAD - - - " | ROUND HEAD, Nickel Plated "

STOVE BOLT NUTS—TAPPED; COLD PRESSED.

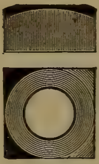
Diameter of Bolt.	Threads.	Per 100.	Diameter of Bolt.	Threads.	Per 100.
$\frac{5}{32}$ inch	24	$0.18	inch	18	$0.28
$\frac{3}{16}$ "	24	.20	$\frac{5}{16}$ "	18	.50
$\frac{7}{32}$ "	20	.22	$\frac{3}{8}$ "	18	.64

$\frac{1}{8}$ inch
Fig. 30

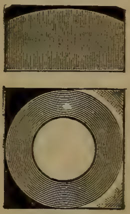


$\frac{3}{16}$ inch
Fig. 31

$\frac{1}{4}$ inch
Fig. 32



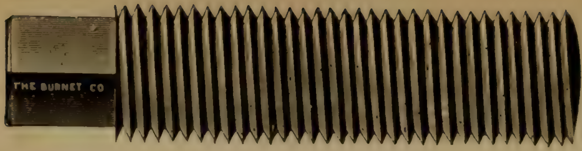
$\frac{5}{16}$ inch
Fig. 33



$\frac{3}{8}$ inch
Fig. 34

TIRE BOLT NUTS.

Diameter of Bolt—Inch .	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
Threads	.24	.24	.20	18	.18
Per 100	$0.21	.22	.28	42	.58



STAY BOLTS.

MADE FROM SOFT STEEL.

PRICE PER 100.

Fig. 35.

Length.	¾	13/16 & ⅞	15/16 & 1
4	$16.45	$23.80	$34 00
4½	17.20	24.80	35.30
5	17.95	25.80	36.60
5½	18.70	26.80	37.90
6	19.45	27.80	39.20
6½	20.20	28.80	40.50
7	20.95	29.80	41.80
7½	21.70	30.80	43.10
8	22.50	31.80	44.40
9	24.00	33.80	47.00
10	25.50	35.80	49.60
11	27.00	37.80	52.20
12	28.50	39.80	54.80
Longer than 12 inches, per lb,	.18	.16	.15

Threads on Stay-Bolts are cut 12 threads to the inch, unless otherwise ordered.

BOILER PATCH BOLTS.

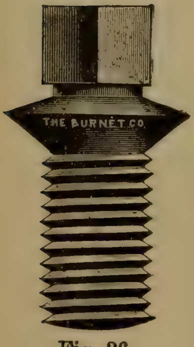


Fig. 36.

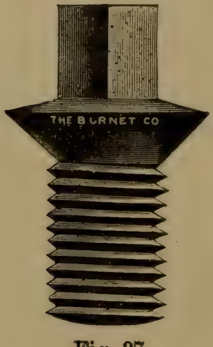


Fig. 37.

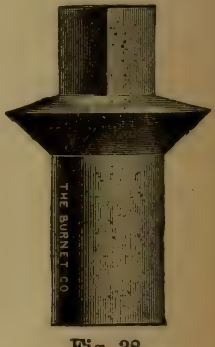


Fig. 38.

PRICE PER 100.

Diameter, inches, -	½	⅝	¾	⅞	1	1⅛	1¼
Milled and threaded, -	$3.00	4 00	5.50	7.50	10.00	13.00	16.00
Blank forgings, - -	$2.00	2.75	3.75	5.00	6.75	9.00	12.00

The length of Patch Bolts is understood to be from the greatest diameter of countersunk head to the point. Patch Bolts will be cut with 12 threads to the inch, unless otherwise ordered. If ordered with special thread, in small quantities, a special price will be charged.

The angle of countersunk head in all Boiler Patch Bolts will be 45 degrees.

COACH, LAG, SKEIN AND FETTER DRIVE SCREWS.

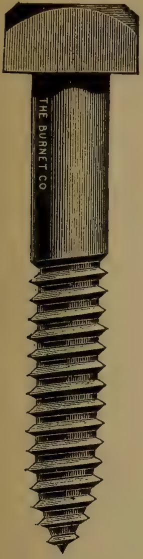


Fig. 39.

Square Head,
Gimlet Pointed
Coach Screw.

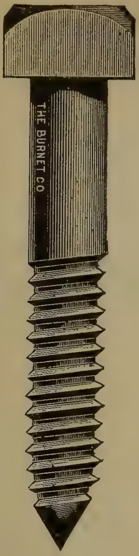


Fig. 40.

Square Head,
Lag Screw.

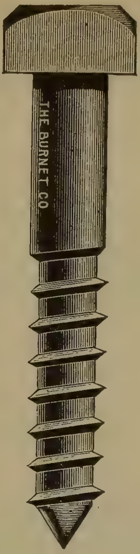


Fig. 41.

Skein Screw.

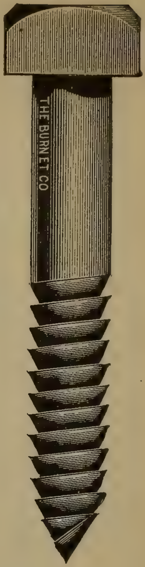


Fig. 42

Fetter
Drive Screw.

Manufacturers' Standard List of

COACH AND LAG SCREWS WITH SQUARE HEADS.

Adopted September 20, 1899, to take effect October 1, 1899.

PRICE PER HUNDRED.

Diameter.	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$ & $\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	
LENGTH IN INCHES. 1½	$2.25	$2.70	$3.15	$3.75	. .	. .	. .	. .
2	2 45	2.96	3.47	4.11	$5 00	. .	. .	. .
2½	2 65	3.22	3.79	4.47	5.50	$7.90	. .	. .
3	2.85	3.48	4.11	4.83	6.00	8.60	$12 50	. .
3½	3 05	3.74	4.43	5.19	6.50	9.30	13.50	$18.20
4	3.25	4.00	4.75	5.55	7.00	10.00	14.50	19.50
4½	3 45	4.26	5.07	5.91	7.50	10.70	15.50	20.80
5	3.65	4.52	5.39	6.27	8.00	11.40	16.50	22.10
5½	3.85	4.78	5.71	6.63	8.50	12.10	17.50	23.40
6	4.05	5.04	6.03	6.99	9.00	12.80	18.50	24.70
6½	. .	. .	6.35	7.35	9 50	13.50	19.50	26.00
7	. .	. .	6.67	7.71	10.00	14.20	20.50	27.30
7½	. .	. .	6.99	8.07	10.50	14.90	21.50	28.60
8	. .	. .	7.31	8.43	11.00	15.60	22.50	29.90
9	. .	. .	7.95	9.15	12.00	17.00	24.50	32.50
10	. .	. .	. .	9.87	13.00	18.40	26.50	35.10
11	. .	. .	. .	10.59	14.00	19.80	28.50	37.70
12	. .	. .	. .	11.31	15.00	21.20	30.50	40.30

The following extras are to be understood as a part of the Coach and Lag Screw List:

Hexagon Heads, 10 per cent. extra.
Skein Screws are sold at the same price as Lag Screws.
Fetter Drive Screws sold by same Lists as Lag Screws.

COACH SCREW—DOUBLE END, GIMLET POINT.

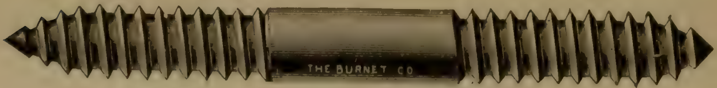


Fig. 43.

Prices Quoted on Application.

COACH SCREW—GIMLET POINT, WITH PIPE THREAD.

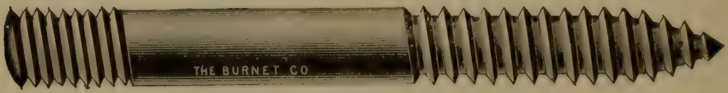


Fig 44

Prices Quoted on Application.

HANGER BOLTS.

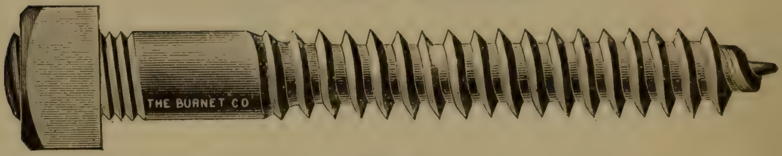


Fig 45.

Diameter.	Length.	Per Pound.
½	4 to 6 inch	$0.20
⅝	5 to 7 inch	.16
¾	6 to 8 inch	.15
⅞	7 to 9 inch	.14
1	8 to 12 inch	.14

Any size made to order.

Hexagon Nuts, 10 per cent. extra.

AVERAGE WEIGHT OF COACH AND LAG SCREWS PER 100.

Diam.	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1
Length.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.	LBS.
1½	4.75	7.10	9.88	13.90	. .	. .	. .	. .	. .
1¾	5.25	7.60	10.87	14.95	. .	. .	. .	. .	. .
2	5.75	8.10	11.63	15.80	24.00	26.25	. .	. .	. .
2¼	6.25	8.70	12.50	16.90	25.00	27.75	. .	. .	. .
2½	6.75	9.35	13.40	17.90	26.00	29.25	46.50	. .	. .
3	7.75	10.65	15.10	19.87	28.00	33.50	51.50	73.00	. .
3½	8.75	11.95	16.50	22.00	31.00	36.50	56.50	79.00	103.00
4	9.75	13.30	18.60	24.30	34.00	39.50	61.50	85.00	112.00
4½	10.75	14.70	20.40	26.87	37.00	42.20	67.00	91.00	121.00
5	11.75	16.10	22.10	29.00	40.00	46.00	72.25	97.00	130.00
5½	12.75	17.50	23.80	31.50	43.00	49.40	78.00	103.00	140.00
6	13.75	18.90	25.50	34.00	46.00	53.00	83.50	110.00	150.00
7	. .	. .	29.25	39.00	52.00	60.00	94.00	125.00	170.00
8	. .	. .	33.00	44.00	58.00	67.50	104.50	140.00	190.00
9	. .	. .	. .	49.00	64.00	75.00	115.00	156.00	210.00
10	. .	. .	. .	54.00	70.00	82.50	126.00	172.00	230.00
11	. .	. .	. .	. .	76.00	90.00	137.00	188.00	250.00
12	. .	. .	. .	. .	82.00	98.00	148.00	204.00	270.00

IRON WOOD SCREWS.

FLAT, ROUND AND OVAL HEAD.

Adopted January 1, 1900.

No.	0	1	2	3	4	•	6	7	8	9	10	11	12	13	14	15	16	17	18	20	22	24	26	28	30
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
¼	63	63	63	63	63																	10 Gross in a package.			
⅜	63	63	63	63	63	63	64	71	80	84															
½	....	63	63	63	63	64	66	76	80	84	87	92	100												
⅝	....	63	63	63	63	67	72	78	85	88	91	95	100	105	115										
¾	....	....	63	64	65	70	77	82	88	92	97	105	110	115	125	140	165								
⅞	....	....	65	67	70	75	82	87	92	95	105	110	115	125	135	160	185								
1	....	....	....	73	76	80	87	93	98	105	115	120	125	140	160	185	210	230	265	315			5 Gross in package.		
1¼	....	....	....	80	83	91	98	105	110	115	120	130	140	155	175	200	230	255	280	335	400	475			
1½	....	....	....	90	95	100	105	110	120	125	130	140	155	170	190	220	245	275	315	350	420	495			
1¾	....	....	.. .	....	....	120	125	133	140	145	150	160	170	185	205	235	265	300	340	400	470	525			
2	....	....	....	....	....	130	135	140	150	155	160	170	180	205	235	265	295	330	385	440	480	550	1 Gr. in p'k'ge.		
2¼	....	....	....	....	....	145	150	155	160	165	175	185	200	220	245	285	325	355	410	485	525	575			
2	....	....	....	...	....	175	180	185	190	200	210	215	225	240	260	305	340	375	435	520	585	650			
2¾	....	....	....	....	....	....	220	225	230	235	240	245	255	265	285	325	365	405	475	570	660	740			
3	....	....	....	....	....	....	260	265	270	275	280	285	290	300	315	340	385	440	510	615	685	770	940		
3½	...	....	....	....	....	....	....	....	350	360	370	380	395	405	415	435	460	495	575	680	760	875	1060		
4	....	....	....	....	....	....	....	....	440	450	460	470	480	490	500	520	535	605	675	785	875	1005	1210	1410	1625
4½	....	....	....	....	....	....	....	....	....	....	....	....	610	620	635	665	690	725	785	870	1015	1165	1380	1595	1810
5	....	....	....	....	....	....	....	....	....	....	....	....	710	730	760	800	840	880	940	1010	1170	1325	1575	1780	2000
6	....	....	....	....	....	....	....	....	....	....	....	....	870	900	930	990	1060	1125	1265	1380	1500	1620	2000	2255	2515

½ Gross in a package.

BRASS AND BRONZE WOOD SCREWS.

FLAT, ROUND AND OVAL HEAD.

No.	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20	22	24	26	28	30
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
¼	80	80	84	87	91	97																			
⅜	80	82	86	89	95	103	110	120	135																
½	....	86	89	93	103	110	120	130	150	170	190														
⅝	....	91	91	99	106	120	130	150	170	190	215	240	265	300	335	370	410								
¾	....	....	106	110	115	130	145	160	190	215	240	265	300	335	370	410	450								
⅞	....	....	135	140	145	150	155	180	205	235	265	295	335	370	410	455	505								
1	....	....	....	155	160	165	170	195	230	260	295	330	365	410	455	500	555	665							
1¼	....	....	....	205	210	215	220	225	265	300	325	385	435	485	525	595	655	720	785	935					
1½	....	....	....	....	285	290	295	300	305	345	395	445	500	560	625	690	760	835	915	1085	1265				
1¾	....	....	....	...	....	....	375	380	385	390	445	505	570	635	710	790	865	950	1045	1240	1450	1685			
2	....	....	....	....	....	....	480	485	490	495	500	565	640	715	795	880	975	1000	1170	1390	1630	1890			
2¼	....	....	....	....	....	....	....	....	685	690	695	700	705	790	880	980	1075	1190	1300	1540	1805	2095			
2½	....	....	....	....	....	....	....	....	....	940	950	955	960	965	970	1075	1185	1300	1430	1695	1985	2300			
2¾	....	....	....	....	....	....	....	....	....	1150	1160	1165	1170	1175	1180	1195	1200	1420	1565	1840	2160	2500			
3	....	....	....	....	....	....	....	....	....	....	1370	1375	1380	1385	1390	1395	1400	1540	1680	1995	2340	2710	3115	3585	4118
3½	....	....	....	....	....	....	....	....	....	....	1585	1590	1595	1600	1605	1610	1620	1770	1940	2275	2690	3120	3580	4120	4745

NICKEL-PLATED WOOD SCREWS.

FLAT AND ROUND HEAD IRON.

No.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
½	145	145	145	145	145	150	160	. .	. .	. .	. .	. .	. .	. .	. .	. .
⅝	145	145	145	145	145	155	163	185	205	. .	. .	. .	. .	. .	. .	. .
¾	145	145	145	145	150	157	170	190	215	235	270	. .	. .	. .	. .	. .
⅞	. .	. .	145	150	155	161	170	190	220	240	275	315	360	. .	. .	. .
1	. .	. .	150	155	155	168	175	195	225	245	280	325	370	. .	. .	. .
1¼	. .	. .	155	155	165	180	195	210	230	260	295	335	385	420	465	. .
1½	. .	. .	. .	188	194	205	215	238	250	285	315	355	400	440	485	585
1¾	. .	. .	. .	215	220	230	240	255	280	312	345	380	420	460	510	615
2	. .	. .	. .	. .	. .	240	250	270	300	345	375	405	445	500	555	670
2¼	. .	. .	. .	. .	. .	. .	285	300	325	375	400	430	480	530	610	725
2½	. .	. .	. .	. .	. .	. .	345	355	365	400	425	475	510	585	665	790
2¾	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	460	. .	540	. .	730	875
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	500	. .	620	. .	805	945

NICKEL-PLATED WOOD SCREWS.

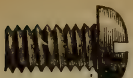
FLAT AND ROUND HEAD BRASS.

No.	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	20
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
½	165	170	180	190	205	215	245	. .	. .	. .	. .	. .	. .	. .	. .	. .
⅝	170	175	190	200	215	240	270	305	350	. .	. .	. .	. .	. .	. .	. .
¾	175	185	200	210	235	255	290	330	375	420	485	. .	. .	. .	. .	. .
⅞	. .	. .	210	230	255	275	310	355	405	450	515	585	660	. .	. .	. .
1	. .	. .	220	240	270	295	335	380	430	480	540	620	700	. .	. .	. .
1¼	. .	. .	260	270	300	330	375	430	485	545	620	700	785	870	950	. .
1½	. .	. .	. .	325	335	370	420	480	545	610	695	780	880	970	1060	1265
1¾	. .	. .	. .	385	395	405	465	530	600	675	765	865	965	1065	1170	1390
2	. .	. .	. .	. .	. .	495	510	580	660	740	840	945	1055	1165	1275	1520
2¼	. .	. .	. .	. .	. .	. .	685	700	720	805	915	1025	1145	1265	1385	1645
2½	. .	. .	. .	. .	. .	. .	900	920	935	955	985	1105	1230	1360	1490	1775
2¾	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1170	. .	1325	. .	1600	1900
3	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	1345	. .	1415	. .	1705	2030

DISCOUNTS.

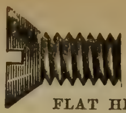
Flat Head, Nickel Plated on Iron . . . . Per cent.
Round Head, Nickel Plated on Iron . . . . "
Flat Head, Nickel Plated on Brass . . . . "
Round Hean, Nickel Plated on Brass . . . . "

IRON MACHINE SCREWS—PER GROSS.



ROUND HEAD.
Fig. 46.

THREADS PER INCH.



FLAT HEAD.
Fig. 47.

	56	48	32, 36, 40		30, 32			24, 30, 32		20, 24		16, 18, 20	16, 18			14, 16			
No.	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
3/16	25	25	25	29	29	35	35	43	43										
1/4	25	25	25	29	29	35	35	43	43	55	68								
5/16	27	27	27	31	31	38	38	46	46	59	74	95							
3/8	27	27	27	31	31	38	38	46	46	59	74	95	105	120					
7/16	29	29	29	33	33	41	41	49	49	59	74	95	110	125					
1/2	29	29	29	33	33	41	41	49	49	59	74	95	110	125	145	170			
9/16	33	33	33	36	36	46	46	54	54	66	81	100	115	135	165	190			
5/8	33	33	33	36	36	46	46	54	54	66	81	100	115	135	165	190	235		
3/4	37	37	37	42	42	52	52	63	63	74	88	110	130	155	175	200	245	320	400
7/8	..	48	48	48	48	60	60	72	72	85	100	120	140	165	190	220	270	330	425
1	..	..	55	55	55	70	70	85	85	97	115	135	155	180	210	255	310	375	450
1 1/8	..	..	75	75	75	85	85	105	105	125	145	165	185	210	250	300	360	435	525
1 1/4	..	..	75	75	75	85	85	105	105	125	145	165	185	210	250	300	360	435	525
1 3/8	..	..	100	100	100	115	115	135	135	160	180	200	220	250	300	360	430	510	600
1 1/2	..	..	100	100	100	115	115	135	135	160	180	200	220	250	300	360	430	510	600
1 3/4	..	..	..	..	125	135	135	170	170	180	205	240	255	290	345	410	485	570	665
2	..	..	..	..	150	165	165	200	200	210	230	275	290	335	395	465	545	635	735
2 1/4	..	..	..	..	..	..	200	230	230	250	275	340	325	370	435	500	585	690	800
2 1/2	..	..	..	..	..	..	235	275	275	300	325	345	365	415	490	575	670	775	890
2 3/4	..	..	..	..	..	..	275	325	325	340	365	385	415	475	555	645	745	860	985
3	..	..	..	..	..	..	325	375	375	390	425	465	515	575	650	745	850	970	1100

BRASS MACHINE SCREWS.—PER GROSS.

THREADS PER INCH.

	56	48	32 36 40		30, 32			24 30 32		20 24		16 18 20	16, 18			14 16			
No.	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24	26	28	30
In.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
3/16	32	32	32	40	40	58	58	86	86										
1/4	32	32	32	40	40	58	58	86	86	90	115	155							
5/16	35	35	35	43	43	62	62	86	86	100	155	200							
3/8	35	35	35	43	43	62	62	86	86	100	155	200	255	300					
7/16	39	39	39	48	48	68	68	95	95	115	170	210	300	360					
1/2	39	39	39	48	48	68	68	95	95	115	170	210	300	360	460	600			
9/16	48	48	48	57	57	77	77	105	105	130	190	235	325	390	490	630			
5/8	48	48	48	57	57	77	77	105	105	130	190	235	325	390	490	630			
3/4	..	60	60	70	70	90	90	115	115	150	210	260	350	430	540	670	810		
7/8	..	..	72	80	80	105	105	135	135	180	230	290	375	470	595	740	900	1125	
1	..	..	80	90	90	120	120	155	155	210	260	320	400	520	670	850	1060	1300	1575
1 1/8	..	..	100	120	120	150	150	190	190	255	310	370	450	600	775	990	1245	1540	1875
1 1/4	..	..	100	120	120	150	150	190	190	255	310	370	450	600	775	990	1245	1540	1875
1 3/8	..	..	150	170	190	210	210	250	250	300	360	430	500	680	890	1155	1470	1835	2250
1 1/2	..	..	150	170	190	210	210	250	250	300	360	430	500	680	890	1155	1470	1835	2250
1 3/4	..	..	..	..	250	270	270	310	310	350	415	500	550	750	985	1270	1605	2040	2425
2	..	..	..	..	330	350	370	400	400	440	490	575	650	825	1060	1355	1710	2180	2600
2 1/4	..	..	..	..	..	..	450	500	500	550	600	665	750	925	1180	1495	1870	2305	2800
2 1/2	..	..	..	..	..	..	600	650	650	700	750	800	900	1050	1250	1550	1980	2535	3050
2 3/4	..	..	..	..	..	..	650	700	750	800	900	1000	1100	1200	1400	1700	2180	2750	3300
3	..	..	..	..	..	..	750	800	850	900	1000	1100	1250	1400	1600	1900	2410	2970	3600

MACHINE SCREW NUTS—TAPPED, COLD PRESSED.

IRON AND BRASS SQUARE NUTS.

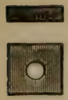

No. 4.

Fig. 48.

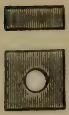

No. 6.

Fig. 49.

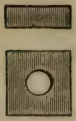

No. 8.

Fig. 50.

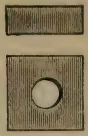

No. 10.

Fig. 51.

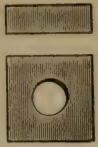

No. 12.

Fig. 52.

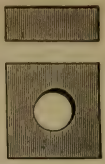

No. 14 and
¼ inch.

Fig. 53.

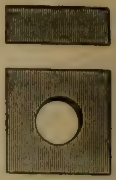

Nos. 16 and
18.

Fig. 54.

		Per Gross.				Per Gross.	
No.	Threads.	Iron.	Brass.	No.	Threads.	Iron.	Brass.
4	32, 36, 40	$0.23	$0.72	18	16, 18	$0.62	$1.88
6	30, 32	.23	.72	20	16, 18	.82	2.45
8	30, 32	.26	.80	22	16, 18	.93	2.70
10	24, 30, 32	.29	.87	24	14, 16	1.06	3.17
12	20, 24	.32	.94	26	14, 16	1.20	3.60
14	20, 24	.36	1.08	28	14, 16	1.35	4.10
16	16, 18, 20	.48	1.44	30	14, 16	1.50	4.55

HEXAGON IRON AND HEXAGON BRASS NUTS.

TAPPED, COLD PRESSED.

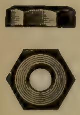

Nos. 4
and 6.

Fig. 57.

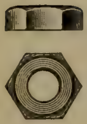

No. 8.

Fig. 58.

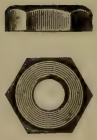

No. 10.

Fig. 59.

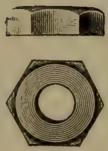

No. 12.

Fig. 60.

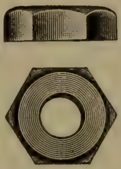

No. 14 and
¼ inch.

Fig. 61.

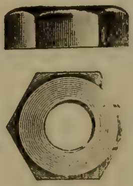

Nos. 16
and 18.

Fig. 62.

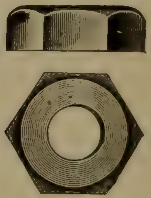

Nos. 20
and 22.

Fig. 63

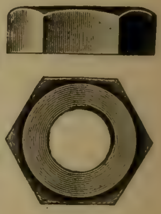

No. 24.

Fig. 64.

		Per Gross.				Per Gross.	
No.	Threads.	Iron.	Brass.	No.	Threads.	Iron.	Brass.
4	32, 36, 40	$0.36	$1.08	18	16, 18	$0.94	$2.81
6	30, 32	.36	1.08	20	16, 18	1.22	3.67
8	30, 32	.40	1.22	22	16, 18	1.44	4.32
10	1, 30, 32	.43	1.30	24	14, 16	1.58	4.75
12	20, 24	.48	1.44	26	14, 16	1.80	5.40
14	20, 24	.55	1.66	28	14, 16	2.02	6.05
16	16, 18, 20	.72	2.16	30	14, 16	2.30	6.91

IRON SET SCREWS.

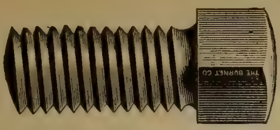


Fig. 65.

Regular Round Point.

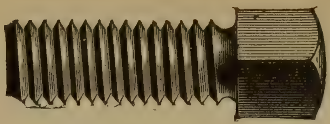


Fig. 66.

Cup Point.

PRICE PER 100.

Diameter of Screw.		1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4
Length under Head to Extreme Point.	3/4	2.00	2.20	2.50	2.90	3.40	4.25	5.00	. .	. .	. .	. .	. .
	1	2.15	2.35	2.65	3.10	3.60	4.25	5.00	7.00	. .	. .	. .	. .
	1 1/4	2.30	2.50	2.80	3.30	3.80	4.50	5.25	7.00	11.30	. .	. .	. .
	1 1/2	2.45	2.65	2.95	3.50	4.00	4.75	5.50	7.50	11.30	14.90	. .	. .
	1 3/4	2.60	2.80	3.10	3.70	4.20	5.00	5.75	8.00	12.00	15.90	19.50	. .
	2	2.80	3.00	3.30	3.95	4.45	5.30	6.05	8.60	12.90	17.00	21.10	25.30
	2 1/4	3.05	3.25	3.55	4.25	4.75	5.65	6.40	9.30	13.80	18.40	22.90	27.40
	2 1/2	3.30	3.55	3.85	4.60	5.10	6.05	6.80	10.00	14.80	19.80	24.70	29.60
	2 3/4	3.55	3.85	4.20	5.00	5.50	6.50	7.25	10.80	15.90	21.40	26.70	32.00
	3	3.80	4.15	4.55	5.45	5.95	7.00	7.75	11.70	17.10	23.00	28.80	34.60
	3 1/4	. .	4.45	4.90	5.90	6.45	7.55	8.35	12.70	18.40	24.70	31.00	37.40
	3 1/2	. .	. .	5.25	6.35	6.95	8.10	8.95	13.70	19.70	26.40	33.20	40.20
	3 3/4	. .	. .	. .	6.80	7.45	8.65	9.55	14.70	21.00	28.10	35.40	43.00
	4	. .	. .	. .	. .	7.95	9.20	10.15	15.70	22.30	29.80	37.60	45.80
	4 1/4	. .	. .	. .	. .	. .	9.75	10.75	16.70	23.60	31.50	39.80	48.60
	4 1/2	. .	. .	. .	. .	. .	. .	11.35	17.70	24.90	33.20	42.00	51.40
	4 3/4	. .	. .	. .	. .	. .	. .	. .	18.70	26.20	34.90	44.20	54.20
	5	. .	. .	. .	. .	. .	. .	. .	. .	27.50	36.60	46.40	57.00
Threads to inch		20	18	16	14	12	12	11	10	9	8	7	7
Add for each 1/4 inch		25	30	35	45	50	55	60	1.00	1.30	1.70	2.20	2.80

STEEL SET SCREWS.

PRICE PER 100.

Diameter of Screw.		1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1 1/8	1 1/4
Length under Head to Extreme Point.	3/4	2.50	2.75	3.10	3.60	4.25	5.30	6.25	. .	. .	. .	. .	. .
	1	2.65	2.90	3.30	3.90	4.50	5.30	6.25	8.75	. .	. .	. .	. .
	1 1/4	2.85	3.10	3.50	4.15	4.75	5.60	6.55	8.75	14.10	. .	. .	. .
	1 1/2	3.05	3.30	3.70	4.40	5.00	5.90	6.90	9.35	14.10	18.60	. .	. .
	1 3/4	3.25	3.50	3.90	4.65	5.25	6.25	7.25	10.00	15.00	19.80	24.40	. .
	2	3.50	3.75	4.15	4.95	5.55	6.60	7.60	10.75	16.10	21.25	26.35	31.60
	2 1/4	3.80	4.05	4.45	5.30	5.90	7.05	8.00	11.60	17.25	23.00	28.60	34.25
	2 1/2	4.10	4.45	4.80	5.75	6.35	7.55	8.50	12.50	18.50	24.70	30.85	37.00
	2 3/4	4.45	4 80	5.25	6.20	6.85	8.10	9.05	13.50	19.85	26.65	33.40	40.00
	3	4.75	5.20	5.70	6.75	7.45	8.75	9.70	14.60	21.35	28.75	36.00	43.25
	3 1/4	. .	5.55	6.10	7.30	8.05	9.45	10.45	15.85	23.00	30.85	38.75	46.75
	3 1/2	. .	. .	6.55	7.90	8.70	10.15	11.20	17.10	24.60	33.25	41.50	50.25
	3 3/4	. .	. .	. .	8.50	9.35	10.85	11.95	18.35	26.25	35.15	44.30	53.75
	4	. .	. .	. .	. .	9.95	11.50	12.70	19.60	27.85	37.25	47.00	57.25
	4 1/4	. .	. .	. .	. .	. .	12.20	13.45	20.85	29.50	39.40	49.75	60.75
	4 1/2	. .	. .	. .	. .	. .	. .	14.20	22.10	31.00	41.50	52.50	64.30
	4 3/4	. .	. .	. .	. .	. .	. .	. .	23.40	32.75	43.60	55.25	67.95
	5	. .	. .	. .	. .	. .	. .	. .	. .	34.40	45.75	58.00	71.25
Threads to inch		20	18	16	14	12	12	11	10	9	8	7	7
Add for each 1/4 inch		35	40	50	60	70	80	90	1.30	1.75	2.30	3.00	3.75

The above screws are case hardened.

SQUARE HEAD CAP SCREWS.

PRICE PER 100.

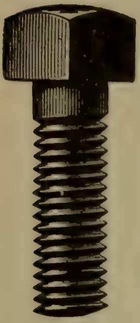


Fig. 67.

Diameter of Head.	⅜	7/16	½	9/16	⅝	11/16	¾	⅞	1⅛	1¼	1⅜	1½	1⅝
Length of Head.	¼	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼	1⅜
Diameter of Screw.	¼	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼	1⅜
Length under Head to Extreme Point	$	$	$	$	$	$	$	$	$	$	$	$	$
¾	2.40	2.75	3.20	3.80	4.40	5 75	.....	.....	.....	.....	.....	.....	....
1	2.60	2.95	3.40	4.00	4.70	5.75	7.70	.....	.....	.....	.....	.....	.....
1¼	2.75	3.10	3.65	4.20	4.95	6.05	7.70	10 50	.....	.....	.....	.....	.....
1½	2.90	3.30	3.85	4.45	5.25	6.35	8 25	10 50	14.00	.....	.....	.....	.....
1¾	3.05	3.50	4 10	4.70	5.55	6.65	8.80	11.10	14.80	18.00	.....	.....	.....
2	3.25	3.70	4.35	4.95	5.90	7.05	9.40	11.80	15.70	19.00	22.50	.....	.....
2¼	3.50	4.00	4.65	5.25	6.30	7.55	10 10	12.60	16.70	20.20	24.00	30.00	.....
2½	3.75	4.35	5.00	5.60	6.75	8.15	10.90	13.50	17.80	21.50	25.80	32 00	39.00
2¾	4.00	4 70	5.45	6.00	7.25	8 85	11.80	14.60	19.10	23.10	27.90	34.20	41.50
3	4.25	5.05	5.90	6.55	7.80	9.65	12.80	15.90	20.60	25.00	30.50	37.00	45 00
3¼	....	5.40	6.35	7.10	8.45	10.55	14.00	17.40	22.40	27.30	33.50	40 50	49.00
3½	....	....	6.80	7.65	9.10	11.45	15.20	18.90	24.20	29.60	36 50	44.00	53.00
3¾	...	....	...	8.20	9.75	12.35	16.40	20.40	26.00	31 90	39 50	47.50	57.00
4	....	....	....	....	10.40	13.25	17.60	21.90	27.80	34.20	42.50	51.00	61.00
4¼	....	....	....	....	.....	14.15	18.80	23.40	29 60	36.50	45.50	54.50	65.00
4½	....	....	....	....	.....	.....	20.00	24.90	31.40	38.80	48.50	58.00	69 00
4¾	....	....	....	....	.....	.....	.....	26 40	33.20	41.10	51.50	61.50	73.00
5	....	....	....	....	.....	.....	.....	.....	35.00	43.40	54.50	65.00	77 00
Threads to inch.	20	18	16	14	12	12	11	10	9	8	7	7	6
Add for each ¼ inch.	25	35	45	55	65	90	1.20	1.50	1.80	2.30	3 00	3.50	4.00

HEXAGON HEAD CAP SCREWS.

PRICE PER 100.

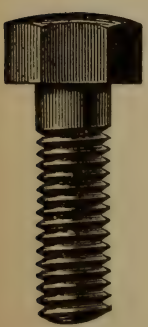


Fig. 68.

Diameter of Head.	7/16	½	9/16	⅝	¾	13/16	⅞	1	1⅛	1¼	1⅜	1½
Length of Head.	¼	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼
Diameter of Screw.	¼	5/16	⅜	7/16	½	9/16	⅝	¾	⅞	1	1⅛	1¼
Length under Head to Extreme Point	$	$	$	$	$	$	$	$	$	$	$	$
¾	3.00	3.25	3.75	4.40	5.50	7.00	......	......	......	......	......	......
1	3.25	3.50	4.00	4.70	5.70	7 00	9.50	......	......	......	......	......
1¼	3.50	3.75	4.25	5.00	6.00	7.50	9.50	12.20	......	......	......	......
1½	3.75	4.00	4.50	5.30	6.30	8.00	10.00	12.20	16 00	......	......	......
1¾	4.00	4.25	4.75	5.60	6.60	8.50	10.60	12.80	16.60	21.20	......	......
2	4.25	4.60	5 05	5.95	7.00	9.10	11.20	13.40	17.20	22.30	29.00	37.50
2¼	4.55	5.00	5.40	6.35	7.50	9.70	11.90	14.10	17.90	23 60	30.50	39.30
2½	4.85	5.40	5.80	6.80	8.00	10.40	12.70	14.90	18.80	25.10	32.30	41.40
2¾	5.15	5 80	6.30	7.30	8.60	11.20	13 60	15.90	20.00	26.90	34.40	44.00
3	5.45	6.20	6.80	7.90	9.30	12.10	14.70	17.00	21 80	29.00	37 00	47.50
3¼	......	6.60	7.30	8.50	10.10	13.10	16.00	18.60	23.80	31.40	40.00	51.50
3½	......	......	7.80	9.10	10.90	14.10	17.30	20.20	25.80	33.80	43.00	55.50
3¾	......	......	......	9.70	11.70	15.10	18.60	21.80	27.80	36.20	46.00	59.50
4	......	......	......	.....	12.50	16.10	19.90	23.40	29.80	38.60	49.00	63.50
4¼	......	......	......	......	......	17.10	21.20	25.00	31.80	41.00	52.00	67.50
4½	......	......	......	......	......	.....	22.50	26.60	33.80	43.40	55.00	71.50
4¾	......	......	......	......	......	......	......	28.20	35.80	45.80	58.00	75.50
5	......	......	......	......	......	......	......	......	37.80	48.20	61.00	79 50
Threads to inch.	20	18	16	14	12	12	11	10	9	8	7	7
Add for each ¼ inch.	30	40	50	60	80	1.00	1 30	1.60	2.00	2 40	3.00	4.00

Steel Cap Screws 25 per cent. additional.

FLAT HEAD CAP SCREWS.

MILLED FROM SOLID BAR.

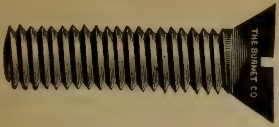


Fig. 69.
Flat Head.

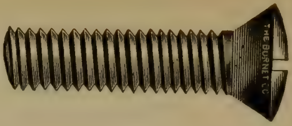


Fig. 70.
French Head.

PRICE PER 100.

	Diameter of Head.	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{15}{32}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{15}{16}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{3}{8}$
	Diameter of Screw.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
LENGTH OVER ALL.	$\frac{3}{4}$	2.25	2.50	3.10	4.00	5.00	. .	. .	. .	. .	.
	1	2.50	2.75	3.35	4.25	5.30	6.60	. .	. .	. .	. .
	$1\frac{1}{4}$	2.75	3.00	3.60	4.50	5.60	6.90	9.00	. .	. .	. .
	$1\frac{1}{2}$	3.00	3.25	3.85	4.75	5.90	7.20	9.50	12.00	. .	. .
	$1\frac{3}{4}$	3.25	3.50	4.10	5.00	6.20	7.50	10.00	12.50	14.50	. .
	2	. .	3.75	4.35	5.50	6.75	8.00	10.75	13.00	15.25	19.20
	$2\frac{1}{4}$	. .	. .	4.75	6.00	7.25	8.50	11.50	13.75	16.00	20.20
	$2\frac{1}{2}$	. .	. .	. .	6.50	7.75	9.00	12.00	14.50	16.75	21.25
	$2\frac{3}{4}$	. .	. .	. .	7.00	8.25	9.50	12.75	15.25	17.50	22.40
	3	. .	. .	. .	. .	8.75	10.00	13.50	16.00	18.30	23.60
	Threads to inch.	40	24	20	18	16	14	12	12	11	10
	Add for each $\frac{1}{4}$ inch.	25	25	40	50	50	50	50	75	1.00	1.25

BUTTON HEAD CAP SCREWS

MILLED FROM SOLID BAR.

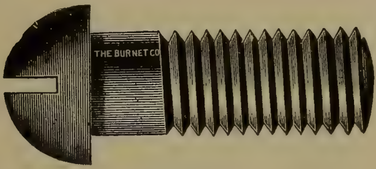


Fig. 71.

PRICE PER 100.

	Diameter of Head.	*$\frac{7}{32}$ Full	$\frac{5}{16}$	$\frac{7}{16}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{15}{16}$	1	$1\frac{1}{4}$
	Diameter of Body.	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{3}{4}$
LENGTH UNDER HEAD TO EXTREME POINT.	$\frac{3}{4}$	2.25	2.50	3.00	3.50	4.00	5.00	. .	. .	. .	. .
	1	2.50	2.75	3.25	3.75	4.25	5.30	6.60	. .	. .	. .
	$1\frac{1}{4}$	2.75	3.00	3.50	4.00	4.50	5.60	6.90	9.00	. .	. .
	$1\frac{1}{2}$	3.00	3.25	3.75	4.25	4.75	5.90	7.20	9.50	12.00	. .
	$1\frac{3}{4}$	3.25	3.50	4.00	4.50	5.00	6.20	7.50	10.00	12.50	18.20
	2	. .	3.75	4.35	5.00	5.50	6.75	8.00	10.75	13.00	19.20
	$2\frac{1}{4}$	. .	. .	4.75	5.50	6.00	7.25	8.50	11.50	13.75	20.20
	$2\frac{1}{2}$	. .	. .	. .	6.00	6.50	7.75	9.00	12.00	14.50	21.25
	$2\frac{3}{4}$	. .	. .	. .	. .	7.00	8.25	9.50	12.75	15.25	22.40
	3	. .	. .	. .	. .	. .	8.75	10.00	13.50	16.00	23.60
	Threads to inch.	40	24	20	18	16	14	12	12	11	10
	Add for each $\frac{1}{4}$ inch.	25	25	40	50	50	50	50	75	75	1.15

No. 4 Wire. Price of Steel Screws 25 per cent. above the price of Iron Screws.

ROUND AND FILISTER HEAD CAP SCREWS.

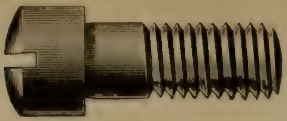


Fig. 72.

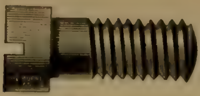


Fig. 73.

Price per 100.

Diameter of Head.	3/16	1/4	3/8	7/16	9/16	5/8	3/4	13/16	7/8	1	1 1/8	1 1/4
Length of Head.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
Diameter of Screw.	1/8	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
Length under Head to Extreme Point. 3/4	$2 00	$2 25	$2 50	$3 00	$3 50	$4 00	$5 00					
1	2 25	2 50	2 75	3 25	3 75	4 25	5 30	$6 60				
1 1/4	2 50	2 75	3 00	3 50	4 00	4 50	5 60	6 90	$9 00			
1 1/2	2 75	3 00	3 25	3 75	4 25	4 75	5 90	7 20	9 50	$12 00		
1 3/4	3 00	3 25	3 50	4 00	4 50	5 00	6 20	7 50	10 00	12 50	$15 25	
2	3 25	3 50	3 75	4 35	5 00	5 50	6 75	8 00	10 75	13 00	16 00	$19 20
2 1/4	3 50	3 75	4 00	4 75	5 50	6 00	7 25	8 50	11 50	13 75	16 75	20 20
2 1/2	3 75	4 00	4 25	5 15	6 00	6 50	7 75	9 00	12 00	14 50	17 50	21 25
2 3/4	. .	4 25	4 50	5 55	6 50	7 00	8 25	9 50	12 75	15 25	18 30	22 40
3	. .	. .	4 75	5 95	7 00	7 50	8 75	10 00	13 50	16 00	19 10	23 60
3 1/4	. .	. .	. .	6 35	7 50	8 00	9 25	10 50	14 25	16 75	20 00	24 85
3 1/2	. .	. .	. .	. .	8 00	8 50	9 75	11 00	15 00	17 50	21 00	26 10
3 3/4	. .	. .	. .	. .	. .	9 00	10 25	11 50	15 75	18 25	22 00	27 35
4	. .	. .	. .	. .	. .	. .	10 75	12 00	16 50	19 00	23 00	28 60
4 1/4	. .	. .	. .	. .	. .	. .	. .	12 50	17 25	19 75	24 00	29 85
4 1/2	. .	. .	. .	. .	. .	. .	. .	. .	18 00	21 50	25 00	31 10
4 3/4	. .	. .	. .	. .	. .	. .	. .	. .	. .	21 25	26 00	32 35
5	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	27 00	33 60
Threads to inc .	40	24	20	18	16	14	12	12	11	10	9	8
Add for each 1/4 inch.	25	25	25	40	50	50	50	50	75	75	1 00	1 25

Manufacturers' Standard List of

FORGED SET SCREWS AND TAP BOLTS.

Square Heads Price per 100.

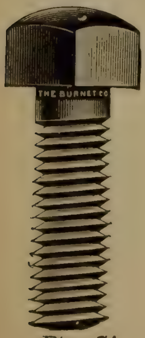


Fig. 74.

Diam. of Screw.	1/4	5/16	3/8	7/16	1/2	9/16 & 5/8	3/4	7/8	1
Length.									
1 1/2	$1.00	$1.15	$1.35	$1.60	$2.00	$3.00	4.20	$6.00	$8.00
1 3/4	1.05	1.21	1.42	1.69	2.10	3.12	4.35	6.20	8.25
2	1.10	1.27	1.49	1.78	2.20	3.24	4.50	6.40	8.50
2 1/4	1.15	1.33	1.56	1.87	2.30	3.36	4.65	6.60	8.75
2 1/2	1.20	1.39	1.63	1.96	2.40	3.48	4.80	6.80	9.00
2 3/4	1.25	1.45	1.70	2.05	2.50	3.60	4.95	7.00	9.25
3	1.30	1.51	1.77	2.14	2.60	3.72	5.10	7.20	9.50
3 1/4	. .	1.57	1.84	2.23	2.70	3.84	5.25	7.40	9.75
3 1/2	. .	. .	1.91	2.32	2.80	3.96	5.40	7.60	10.00
3 3/4	. .	. .	. .	2.41	2.90	4.08	5.55	7.80	10.25
4	. .	. .	. .	. .	3.00	4.20	5.70	8.00	10.50

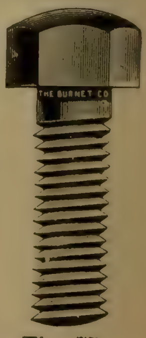


Fig. 75.

With Hexagon Heads 10 per cent. extra

Heads of Hexagon Tap Bolts are made finished size of United States Standard Nuts for same diameter.

PRESSED WROUGHT IRON TURNBUCKLES.

WITH RIGHT AND LEFT STUB BOLT ENDS.

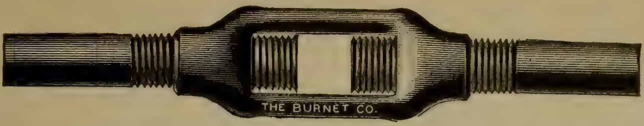


Fig. 76.

Diameter of Stub Ends.	Inside Opening of Buckle.	Outside Length of Buckle.	Total Length of Buckle with Stud Ends in.	Price Each.
3/8 inch.	4 3/4 inches.	6 1/2 inches.	17 inches.	$0.40
7/16 "	4 3/4 "	6 1/2 "	17 "	.42
1/2 "	6 "	8 "	21 "	.45
5/8 "	6 "	8 1/4 "	23 "	.50
3/4 "	6 "	8 1/2 "	23 "	.63
7/8 "	6 "	9 "	23 "	.75
1 "	6 "	9 "	23 "	.88
1 1/8 "	6 "	9 1/4 "	23 "	1.00
1 1/4 "	6 "	9 1/2 "	23 "	1.25
1 3/8 "	6 "	9 3/4 "	23 "	1.38
1 1/2 "	6 1/4 "	10 1/2 "	25 "	1.50
1 3/4 "	6 1/4 "	11 1/2 "	26 "	2.00

Prices for larger sizes Turnbuckles quoted on application.
Longer Turnbuckles are made to order at special prices.
Turnbuckles with swivel in one end furnished to order.

PIPE SWIVELS.

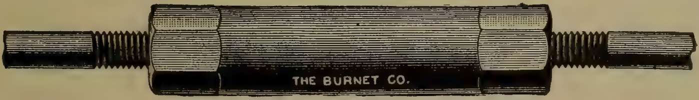


Fig. 77.

WITH RIGHT AND LEFT HAND THREADS AND STUB ENDS.

Diam. of Screw.	Length of Swivel.	Length between Nuts.	Length of Nuts.	Outside Diam. of Pipe.	Thickness of Pipe.	List Price. Each.
3/8	5	3 3/4	5/8	.840	.109	$0.60
1/2	5 1/2	3 3/4	7/8	1.050	.113	.80
5/8	7	4 3/4	1 1/8	1.315	.134	1.00
3/4	7	4 3/4	1 1/8	1.315	.134	1.25
7/8	8	5 1/2	1 1/4	1.660	.140	1.50
1	9 1/2	6 1/2	1 1/2	1.900	.145	2.00
1 1/8	9 1/2	6 1/2	1 3/4	1.900	.145	2.50
1 1/4	11 1/2	8	1 3/4	2.375	.154	3.00
1 3/8	11 1/2	8	1 3/4	2.375	.154	3.50
1 1/2	13 1/2	8 1/2	2 1/2	2.875	.204	4.00
1 5/8	13 1/2	8 1/2	2 1/2	2.875	.204	4.50
1 3/4	13 1/2	8 1/2	2 1/2	2.875	.204	5.00
1 7/8	15	9 1/2	2 3/4	3.500	.217	5.50
2	15	9 1/2	2 3/4	3.500	.217	6.00

List prices of Sleeve Nuts same as above.

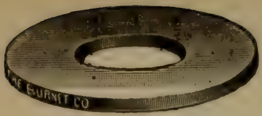


Fig. 78.

PLATE WASHERS.

MANUFACTURERS' STANDARD LIST.

Diameter.	Size of Hole.	Thickness Wire Gauge.	Size of Bolt.	Price per lb.	Number in 100 lbs.
9/16	1/4	No. 18	3/16	14.0	45000
3/4	5/16	“ 16	1/4	12.2	13900
7/8	3/8	“ 16	5/16	11.4	11250
1	7/16	“ 14	3/8	10.5	6800
1 1/4	1/2	“ 14	7/16	9.7	4300
1 3/8	9/16	“ 12	1/2	9.2	2600
1 1/2	5/8	“ 12	9/16	9.1	2250
1 3/4	11/16	“ 10	5/8	9.0	1310
2	13/16	“ 10	3/4	8.8	1010
2 1/4	15/16	“ 9	7/8	8.8	867
2 1/2	1 1/16	“ 9	1	8.8	634
2 3/4	1 1/4	“ 9	1 1/8	8.8	500
3	1 3/8	“ 9	1 1/4	9.0	367
3 1/4	1 1/2	“ 8	1 3/8	9.0	300
3 1/2	1 5/8	“ 8	1 1/2	9.2	267
3 3/4	1 3/4	“ 8	1 5/8	9.2	247
4	1 7/8	“ 8	1 3/4	9.5	224
4 1/4	2	“ 8	1 7/8	9.5	200
4 1/2	2 1/8	“ 8	2	9.5	180

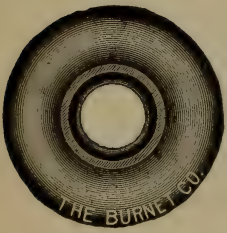

THE BURNET CO.

Fig. 79.
Countersunk for bolt head.

ROUND CAST WASHERS.

Regular sizes carried in stock.

WEIGHT PER 100.

Prices on application.

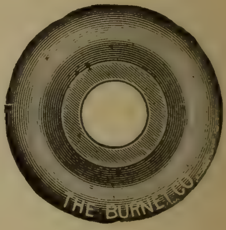

THE BURNET CO.

Fig. 80.
Round Washer.

Diameter, inches .	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	7	7 1/2
Thickness, inches .	5/16	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8
Size bolt	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2
Weight per 100 . .	8 1/2	22	45	72	115	180	215	320	425	525	1150	1550
Price per lb. $ . .												

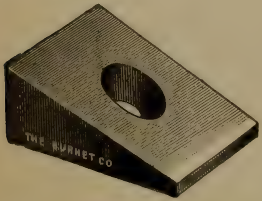


Fig. 81.
Square Beveled.

BEVELED CAST WASHERS.

Prices on application.

We are prepared to furnish any style of cast washers on receipt of pattern or description.

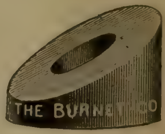


Fig. 82.
Round Beveled.

U. S. STANDARD

HOT-PRESSED SQUARE AND HEXAGON NUTS

AND

HOT-PRESSED REAMED SQUARE AND HEXAGON NUTS.

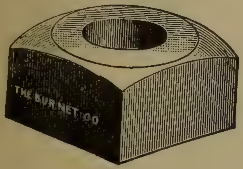


Fig. 83.

Adopted as the Standard
of the
United States Government.

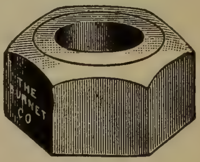


Fig. 84.

Short Diameter.	Thickness.	Hole.	Size of Bolt.	SQUARE.			HEXAGON.		
				Price per Pound.			Price per Pound.		
				Hot Pressed.		Reamed Blank.	Hot Pressed.		Reamed Blank.
				Blank.	Tapped.		Blank	Tapped.	
$\frac{1}{2}$	$\frac{1}{4}$	.185 = $\frac{3}{16}$ scant.	$\frac{1}{4}$	13.0	15.0	13.8	20.0	22.5	21.0
$\frac{19}{32}$	$\frac{5}{16}$	.240 = $\frac{1}{4}$ scant.	$\frac{5}{16}$	12.0	13.5	12.8	18.0	20.0	19.0
$\frac{11}{16}$	$\frac{3}{8}$	.294 = $\frac{19}{64}$ scant.	$\frac{3}{8}$	10.5	11.6	11.0	14.0	15.6	14.7
$\frac{25}{32}$	$\frac{7}{16}$	.344 = $\frac{11}{32}$	$\frac{7}{16}$	10.0	10.9	10.5	13.0	14.3	13.7
$\frac{7}{8}$	$\frac{1}{2}$	.400 = $\frac{13}{32}$ scant.	$\frac{1}{2}$	9.0	9.7	9.3	11.2	12.2	11.5
$\frac{31}{32}$	$\frac{9}{16}$	.454 = $\frac{29}{64}$	$\frac{9}{16}$	9.0	9.6	9.3	11.2	12.1	11.5
$1\frac{1}{16}$	$\frac{5}{8}$	.507 = $\frac{1}{2}$ full.	$\frac{5}{8}$	8.7	9.2	8.9	10.5	11.2	10.7
$1\frac{1}{4}$	$\frac{3}{4}$	.620 = $\frac{5}{8}$ scant.	$\frac{3}{4}$	8.5	8.9	8.6	10.0	10.6	10.2
$1\frac{7}{16}$	$\frac{7}{8}$	.731 = $\frac{47}{64}$ scant.	$\frac{7}{8}$	8.4	8.8	8.6	9.9	10.5	10.2
$1\frac{5}{8}$	1	.837 = $\frac{27}{32}$ scant.	1	8.2	8.6	8.4	9.7	10.3	10.0
$1\frac{13}{16}$	$1\frac{1}{8}$	.940 = $\frac{15}{16}$ full.	$1\frac{1}{8}$	8.2	8.6	8.4	9.7	10.3	10.0
2	$1\frac{1}{4}$	1.065 = $1\frac{1}{16}$ full.	$1\frac{1}{4}$	8.4	8.8	8.8	9.9	10.5	10.5
$2\frac{3}{16}$	$1\frac{3}{8}$	1.160 = $1\frac{5}{32}$ full.	$1\frac{3}{8}$	8.5	9.0	8.8	10.0	10.7	10.5
$2\frac{3}{8}$	$1\frac{1}{2}$	1.284 = $1\frac{9}{32}$ full.	$1\frac{1}{2}$	8.8	9.4	9.6	10.3	11.1	11.3
$2\frac{9}{16}$	$1\frac{5}{8}$	1.389 = $1\frac{25}{64}$ scant.	$1\frac{5}{8}$	9.0	9.7	9.6	10.5	11.4	11.3
$2\frac{3}{4}$	$1\frac{3}{4}$	1.491 = $1\frac{1}{2}$ scant.	$1\frac{3}{4}$	9.3	10.0	10.2	10.8	11.7	12.1
$2\frac{15}{16}$	$1\frac{7}{8}$	1.616 = $1\frac{5}{8}$ scant.	$1\frac{7}{8}$	9.5	10.3	10.2	11.0	12.0	12.1
$3\frac{1}{8}$	2	1.712 = $1\frac{23}{32}$ scant.	2	9.7	10.6	10.6	11.2	12.3	12.6
$3\frac{5}{16}$	$2\frac{1}{8}$	1.836 = $1\frac{27}{32}$ scant.	$2\frac{1}{8}$	10.0	11.0	11.0	11.7	12.9	13.0
$3\frac{1}{2}$	$2\frac{1}{4}$	1.962 = $1\frac{31}{32}$ scant.	$2\frac{1}{4}$	10.0	11.1	11.5	11.7	13.0	13.5
$3\frac{11}{16}$	$2\frac{3}{8}$	2.086 = $2\frac{5}{46}$ scant.	$2\frac{3}{8}$	10.3	11.5	12.0	12.2	13.6	14.0
$3\frac{7}{8}$	$2\frac{1}{2}$	$2\frac{3}{16}$	$2\frac{1}{2}$	10.5	11.8	12.2	12.4	13.9	14.2
$4\frac{1}{4}$	$2\frac{3}{4}$	$2\frac{7}{16}$	$2\frac{3}{4}$	11.0	12.4	12.7	13.0	14.6	15.0
$4\frac{5}{8}$	3	$2\frac{11}{16}$	3	11.5	13.0	13.2	13.5	15.2	15.6

For less than keg lots (200 pounds) of a size the following extras will be charged, viz:

At the rate of 20 cents per 100 pounds for 100 pounds or more.

At the rate of 50 cents per 100 pounds for less than 100 pounds.

U. S. STANDARD CHAMFERED, TRIMMED AND REAMED NUTS.

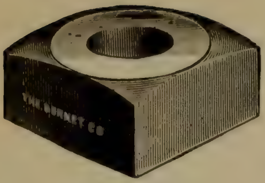


Fig. 85.

SQUARE AND HEXAGON.

HOT AND COLD PUNCHED.

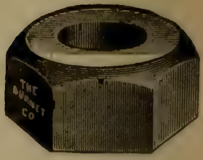


Fig. 86.

Short Diameter.	Thickness.	HOLE.	Size of Bolt.	SQUARE.			HEXAGON.		
				Price per lb. Blank.	Price per lb. Tapped.	Average Number in 100 lbs. Blank.	Price per lb. Blank.	Price per lb. Tapped.	Average Number in 100 lbs. Blank.
$\frac{1}{2}$	$\frac{1}{4}$	.185= $\frac{3}{16}$ scant.	$\frac{1}{4}$	20.0	22.0	7400	27.0	29.5	8880
$\frac{19}{32}$	$\frac{5}{16}$	.240= $\frac{1}{4}$ scant.	$\frac{5}{16}$	18.0	19.5	4000	24.0	26.0	4800
$\frac{11}{16}$	$\frac{3}{8}$	.294= $\frac{19}{64}$ scant.	$\frac{3}{8}$	14.5	15.6	2730	18.5	20.1	3276
$\frac{25}{32}$	$\frac{7}{16}$	.344= $\frac{11}{32}$	$\frac{7}{16}$	14.0	14.9	1700	18.0	19.3	2040
$\frac{7}{8}$	$\frac{1}{2}$	.400= $\frac{13}{32}$ scant.	$\frac{1}{2}$	11.3	12.0	1160	14.0	15.0	1392
$\frac{31}{32}$	$\frac{9}{16}$	.454= $\frac{29}{64}$	$\frac{9}{16}$	11.3	11.9	900	14.0	14.9	1080
$1\frac{1}{16}$	$\frac{5}{8}$	.507= $\frac{1}{2}$ full.	$\frac{5}{8}$	10.0	10.5	653	12.5	13.2	784
$1\frac{1}{4}$	$\frac{3}{4}$	.620= $\frac{5}{8}$ scant.	$\frac{3}{4}$	9.4	9.8	386	10.9	11.5	463
$1\frac{7}{16}$	$\frac{7}{8}$	.731= $\frac{47}{64}$ scant.	$\frac{7}{8}$	9.4	9.8	260	10.9	11.5	312
$1\frac{5}{8}$	1	.837= $\frac{27}{32}$ scant.	1	9.4	9.8	170	10.9	11.5	204
$1\frac{13}{16}$	$1\frac{1}{8}$	.940= $\frac{15}{16}$ full.	$1\frac{1}{8}$	9.4	9.8	122	10.9	11.5	146
2	$1\frac{1}{4}$	1.065=$1\frac{1}{16}$ full.	$1\frac{1}{4}$	10.1	10.5	90	11.5	12.1	108
$2\frac{3}{16}$	$1\frac{3}{8}$	1.160=$1\frac{5}{32}$ full.	$1\frac{3}{8}$	10.3	10.8	69	12.0	12.7	83
$2\frac{3}{8}$	$1\frac{1}{2}$	1.284=$1\frac{9}{32}$ full.	$1\frac{1}{2}$	10.7	11.3	54	12.6	13.4	65
$2\frac{9}{16}$	$1\frac{5}{8}$	1.389=$1\frac{25}{64}$ scant.	$1\frac{5}{8}$	11.1	11.8	43	13.2	14.1	52
$2\frac{3}{4}$	$1\frac{3}{4}$	1.491=$1\frac{1}{2}$ scant.	$1\frac{3}{4}$	11.5	12.2	35	14.0	14.9	42
$2\frac{15}{16}$	$1\frac{7}{8}$	1.616=$1\frac{5}{8}$ scant.	$1\frac{7}{8}$	12.0	12.8	29	14.5	15.5	35
$3\frac{1}{8}$	2	1.712=$1\frac{23}{32}$ scant.	2	12.0	12.9	24	14.5	15.6	29
$3\frac{5}{16}$	$2\frac{1}{8}$	1.836=$1\frac{27}{32}$ scant.	$2\frac{1}{8}$	12.5	13.5	$20\frac{1}{4}$	15.0	16.2	26
$3\frac{1}{2}$	$2\frac{1}{4}$	1.962=$1\frac{31}{32}$ scant.	$2\frac{1}{4}$	12.5	13.6	17	15.0	16.3	23
$3\frac{11}{16}$	$2\frac{3}{8}$	2.080=$2\frac{5}{64}$ full.	$2\frac{3}{8}$	13.5	14.7	15	16.0	17.4	20
$3\frac{7}{8}$	$2\frac{1}{2}$	2.176=$2\frac{11}{64}$ full.	$2\frac{1}{2}$	13.5	14.8	12	16.0	17.5	16

These are *extra fine* unfinished nuts, cupped and trimmed outside to exact dimensions, and have *reamed holes*, at right angles to their bases, to suit U. S. Standard Taps, and are in all respect a superior article.

We make both Hot-Punched and Cold-Punched Chamfered, Trimmed, and Reamed Nuts; and the above list applies to both kinds.

For less than keg lots (200 pounds) of a size the following extras will be charged, viz.:

At the rate of 20 cents per 100 pounds for 100 pounds or more.

At the rate of 50 cents per 100 pounds for less than 100 pounds.

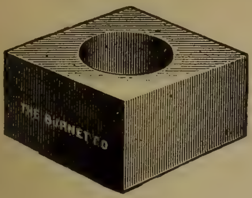


Fig. 87.

PLAIN
COLD PUNCHED
NUTS.

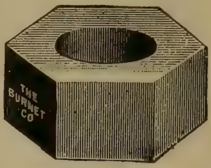


Fig. 88.

Square and Hexagon.

Wide.	Thick.	Hole.	Bolt.	SQUARE.			HEXAGON.		
				Price per lb. Blank	Price per lb. Tapped.	Average Number in 100 lbs. Blank.	Price per lb. Blank.	Price per lb. Tap ed.	Average Number in 100 lbs. Blank.
$\frac{1}{2}$	$\frac{1}{4}$	.185= $\frac{3}{16}$ scant.	$\frac{1}{4}$	13.8	15.8	6700	21.0	23.5	7500
$\frac{19}{32}$	$\frac{5}{16}$	.240= $\frac{1}{4}$ scant.	$\frac{5}{16}$	12.8	14.3	4100	19.0	21.0	4700
$\frac{11}{16}$	$\frac{3}{8}$	.294= $\frac{19}{64}$ scant.	$\frac{3}{8}$	11.0	12.1	2400	14.7	16.3	2800
$\frac{25}{32}$	$\frac{7}{16}$	.344= $\frac{11}{32}$	$\frac{7}{16}$	10.5	11.4	1550	13.7	15.0	1830
$\frac{7}{8}$	$\frac{1}{2}$	.400= $\frac{13}{32}$ scant.	$\frac{1}{2}$	9.3	10.0	1100	11.5	12.5	1300
$\frac{31}{32}$	$\frac{9}{16}$	.454= $\frac{29}{64}$	$\frac{9}{16}$	9.3	9.9	825	11.5	12.4	990
$1\frac{1}{16}$	$\frac{5}{8}$	.507= $\frac{1}{2}$ full.	$\frac{5}{8}$	8.9	9.4	580	10.7	11.4	700
$1\frac{1}{4}$	$\frac{3}{4}$	.620= $\frac{5}{8}$ scant.	$\frac{3}{4}$	8.6	9.0	348	10.2	10.8	438
$1\frac{7}{16}$	$\frac{7}{8}$	731= $\frac{47}{64}$ scant.	$\frac{7}{8}$	8.6	9.0	228	10.2	10.8	290
$1\frac{5}{8}$	1	.837= $\frac{27}{32}$ scant.	1	8.4	8.8	156	10.0	10.6	198
$1\frac{13}{16}$	$1\frac{1}{8}$	.940= $\frac{15}{16}$ full.	$1\frac{1}{8}$	8.4	8.8	122	10.0	10.6	140
2	$1\frac{1}{4}$	1.065=$1\frac{1}{16}$ full.	$1\frac{1}{4}$	8.8	9.2	88	10.5	11.1	103
$2\frac{3}{16}$	$1\frac{3}{8}$	1.160=$1\frac{5}{32}$ full.	$1\frac{3}{8}$	8.8	9.3	65	10.5	11.2	77
$2\frac{3}{8}$	$1\frac{1}{2}$	1.284=$1\frac{9}{32}$ full.	$1\frac{1}{2}$	9.6	10.2	54	11.3	12.1	63
$2\frac{9}{16}$	$1\frac{5}{8}$	1.389=$1\frac{25}{64}$ scant.	$1\frac{5}{8}$	9.6	10.3	42	11.3	12.2	50
$2\frac{3}{4}$	$1\frac{3}{4}$	1.491=$1\frac{1}{2}$ scant.	$1\frac{3}{4}$	10.2	10.9	33	12.1	13.0	39
$2\frac{15}{16}$	$1\frac{7}{8}$	1.616=$1\frac{5}{8}$ scant.	$1\frac{7}{8}$	10.2	11.0	27	12.1	13.1	31
$3\frac{1}{8}$	2	1.712=$1\frac{23}{32}$ scant.	2	10.6	11.5	23	12.6	13.7	28
$3\frac{5}{16}$	$2\frac{1}{8}$	1.836=$1\frac{27}{32}$ scant.	$2\frac{1}{8}$	11.0	12.0	19	13.0	14.2	24
$3\frac{1}{2}$	$2\frac{1}{4}$	1.962=$1\frac{31}{32}$ scant.	$2\frac{1}{4}$	11.5	12.6	17	13.5	14.8	20

For less than keg lots (200 pounds) of a size the following extras will be charged, viz.:

At the rate of 20 cents per 100 pounds for 100 pounds or more.
At the rate of 50 cents per 100 pounds for less than 100 pounds.

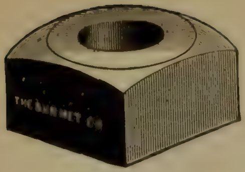


Fig. 89.

HOT PRESSED SQUARE AND HEXAGON NUTS.

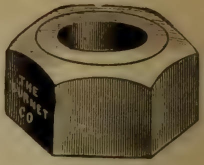


Fig. 90.

Square.						Hexagon.					
Short Diam.	Thickness.	Hole.	Size of Bolt.	Price per lb. Blank.	Price per lb. Tapped.	Short Diam.	Thickness.	Hole.	Size of Bolt.	Price per lb. Blank.	Price per lb. Tapped.
½	¼	7/32	¼	13.0	15.0	½	¼	7/32	¼	20.0	22.5
⅝	16	9/32	5/16	11.5	13.0	⅝	5/16	9/32	5/16	16.0	18.0
¾	⅜	11/32	⅜	10.0	11.1	¾	⅜	11/32	⅜	13.0	14.6
⅞	7/16	25/64	7/16	9.2	10.1	⅞	7/16	25/64	7/16	11.4	12.7
1	½	7/16	½	8.7	9.4	1	½	7/16	½	10.5	11.5
1⅛	9/16	½	9/16	8.6	9.2	1⅛	9/16	½	9/16	10.4	11.3
1¼	⅝	9/16	⅝	8.5	9.0	1¼	⅝	9/16	⅝	10.1	10.8
1½	¾	21/32	¾	8.4	8.8	1⅜	¾	21/32	¾	9.9	10.5
1¾	⅞	25/32	⅞	8.3	8.7	1⅝	⅞	25/32	⅞	9.8	10.4
2	1	⅞	1	8.2	8.6	1¾	1	⅞	1	9.7	10.3
2¼	1⅛	31/32	1⅛	8.2	8.6	2	1¼	31/32	1⅛	9.7	10.3
2½	1¼	1 3/32	1¼	8.3	8.7	2¼	1⅜	1 3/32	1¼	9.8	10.4
2¾	1⅜	1 3/16	1⅜	8.5	9.0	2½	1½	1 3/16	1⅜	10.0	10.7
3	1½	1 5/16	1½	8.7	9.3	2¾	1⅝	1 5/16	1½	10.2	11.0
3¼	1⅝	1 7/16	1⅝	8.9	9.6	3	1¾	1 7/16	1⅝	10.4	11.3
3½	1¾	1 9/16	1¾	9.2	9.9	3¼	1⅞	1 9/16	1¾	10.7	11.6
3¾	1⅞	1 11/16	1⅞	9.4	10.2	3½	2	1 11/16	1⅞	10.9	11.9
4	2	1 13/16	2	9.6	10.5	3½	2	1 13/16	2	11.1	12.2
4	2⅛	1⅞	2⅛	9.7	10.7	3¾	2⅛	1⅞	2⅛	11.4	12.6
4¼	2¼	2	2¼	9.9	11.0	3¾	2¼	2	2¼	11.6	12.9
4¼	2⅜	2⅛	2⅜	10.1	11.3	4	2⅜	2⅛	2⅜	12.0	13.4
4½	2½	2¼	2½	. .	. .	4¼	2½	2¼	2½	. .	. .
4¾	2¾	2 7/16	2¾	. .	. .	4½	2¾	2 7/16	2¾	. .	. .
5	3	2 11/16	3	. .	. .	4¾	3	2 11/16	3	. .	. .
5½	3¼	2 15/16	3¼	. .	. .	5	3¼	2 15/16	3¼	. .	. .
6	3½	3⅛	3½	. .	. .	5¼	3½	3⅛	3½	. .	. .

HOT-PRESSED SQUARE NUTS.

FOR STEAMBOAT STIRRUP BOLTS.

Short Diameter.	Thickness.	Hole.	Size of Bolt.	Price per lb. Blank.	Price per lb. Tapped.
1½	⅝	9/16	⅝	8.6	9.1
1¾	⅝	9/16	⅝	8.6	9.1
1¾	¾	21/32	¾	8.6	9.0
2	¾	21/32	¾	8.6	9.0
2	⅞	25/32	⅞	8.6	9.0

For less than keg lots (200 pounds) of a size the following extras will be charged, viz.:
At the rate of 20 cents per 100 pounds for 100 pounds or more.
At the rate of 50 cents per 100 pounds for less than 100 pounds.

Manufacturers' Standard Sizes

PLAIN COLD PUNCHED NUTS.

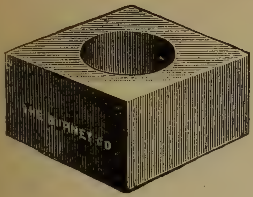


Fig. 91.

SQUARE
AND
HEXAGON.

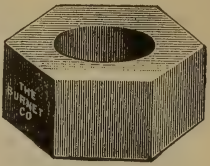


Fig. 92.

SQUARE.						HEXAGON.					
Short Diam.	Thickness.	Hole.	Bolt.	Price per lb. Blank.	Price per lb. Tapped.	Short Diam.	Thickness.	Hole.	Bolt.	Price per lb. Blank.	Price per lb. Tapped.
1/2	1/4	7/32	1/4	13.8	15.8	1/2	1/4	7/32	1/4	21.0	23.5
5/8	5/16	9/32	5/16	12.3	13.8	5/8	5/16	9/32	5/16	17.5	19.5
3/4	3/8	11/32	3/8	10.8	11.9	3/4	3/8	11/32	3/8	13.8	15.4
7/8	7/16	13/32	7/16	9.3	10.2	7/8	7/16	13/32	7/16	11.5	12.8
7/8	1/2	7/16	1/2	9.3	10.0	7/8	1/2	7/16	1/2	11.5	12.5
1	1/2	7/16	1/2	9.0	9.7	1	1/2	7/16	1/2	11.0	12.0
1 1/8	9/16	1/2	9/16	8.8	9.4	1	9/16	7/16	1/2	11.0	12.0
1 1/8	5/8	9/16	5/8	8.8	9.3	1 1/8	9/16	1/2	9/16	10.6	11.5
1 1/4	5/8	9/16	5/8	8.5	9.0	1 1/8	5/8	9/16	5/8	10.6	11.3
1 3/8	3/4	21/32	3/4	8.5	8.9	1 1/8	3/4	9/16	5/8	10.6	11.3
1 1/2	3/4	21/32	3/4	8.2	8.6	1 1/4	5/8	9/16	5/8	10.1	10.8
1 1/2	7/8	25/32	7/8	8.5	8.9	1 1/4	3/4	9/16	5/8	10.1	10.8
1 5/8	7/8	25/32	7/8	8.2	8.6	1 3/8	3/4	21/32	3/4	10.1	10.7
1 3/4	7/8	25/32	7/8	8.2	8.6	1 3/8	7/8	21/32	3/4	10.1	10.7
1 3/4	1	7/8	1	8.2	8.6	1 1/2	3/4	21/32	3/4	9.7	10.3
2	1	7/8	1	8.2	8.6	1 1/2	7/8	21/32	3/4	9.7	10.3
2	1 1/8	15/16	1 1/8	8.2	8.6	1 1/2	7/8	25/32	7/8	10.1	10.7
2 1/4	1 1/8	15/16	1 1/8	8.2	8.6	1 1/2	1	25/32	7/8	10.1	10.7
2 1/4	1 1/4	1 1/16	1 1/4	8.6	9.0	1 5/8	7/8	25/32	7/8	9.7	10.3
2 1/2	1 1/4	1 1/16	1 1/4	8.6	9.0	1 5/8	1	25/32	7/8	9.7	10.3
2 3/4	1 3/8	1 3/16	1 3/8	8.6	9.1	1 3/4	1	7/8	1	9.7	10.3
3	1 1/2	1 5/16	1 1/2	9.2	9.8	1 3/4	1 1/8	7/8	1	9.7	10.3
3 1/4	1 5/8	1 7/16	1 5/8	9.2	9.9	2	1 1/4	15/16	1 1/8	9.7	10.3
3 1/2	1 3/4	1 9/16	1 3/4	9.8	10.5	2 1/4	1 3/8	1 1/16	1 1/4	10.1	10.7
3 3/4	1 7/8	1 11/16	1 7/8	9.8	10.6	2 1/2	1 1/2	1 3/16	1 3/8	10.1	10.8
4	2	1 13/16	2	9.8	10.7	2 3/4	1 5/8	1 5/16	1 1/2	10.3	11.1
. .	. .	. .	. .	. .	. .	3	1 3/4	1 7/16	1 5/8	10.9	11.8
. .	. .	. .	. .	. .	. .	3 1/4	1 7/8	1 9/16	1 3/4	10.9	11.8
. .	. .	. .	. .	. .	. .	3 1/2	2	1 11/16	1 7/8	11.5	12.5
. .	. .	. .	. .	. .	. .	3 1/2	2	1 13/16	2	11.5	12.6
. .	. .	. .	. .	. .	. .	3 1/2	2 1/8	1 13/16	2	12.0	13.1

For less than keg lots (200 pounds) of a size following extras will be charged, viz.:

At the rate of 20 cents per 100 for 100 pounds or more.

At the rate of 50 cents per 100 pounds for less than 100 pounds.

Manufacturers' Standard

SQUARE AND HEXAGON HOT PRESSED NUTS.

NARROW GAUGE SIZES.

SQUARE.						HEXAGON.					
Short Diam.	Thickness.	Hole.	Size of Bolt.	Price per lb. Blank.	Price per lb. Tapp'd	Short Diam.	Thickness.	Hole.	Size of Bolt.	Price per lb. Blank.	Price per lb. Tapp'd
13/32	3/16	5/32	3/16	20.0	24.5	. . .	. . .	. . .	. . .	. . .	. . .
15/32	7/32	7/32	1/4	13.7	15.7	. . .	. . .	. . .	. . .	. . .	. . .
9/16	9/32	9/32	5/16	12.3	13.8	. . .	. . .	. . .	. . .	. . .	. . .
11/16	3/8	21/64	3/8	10.7	11.8	11/16	3/8	21/64	3/8	14.0	15.6
25/32	7/16	25/64	7/16	10.0	10.9	25/32	7/16	25/64	7/16	13.0	14.3
7/8	1/2	7/16	1/2	9.0	9.7	7/8	1/2	7/16	1/2	11.2	12.2
1	9/16	1/2	9/16	8.7	9.3	1	9/16	1/2	9/16	10.5	11.4
1 1/8	5/8	9/16	5/8	8.6	9.1	1 1/8	5/8	9/16	5/8	10.4	11.1
1 3/8	3/4	21/32	3/4	8.4	8.8	1 1/4	3/4	21/32	3/4	10.1	10.7
1 5/8	7/8	25/32	7/8	8.3	8.7	1 1/2	7/8	25/32	7/8	9.9	10.5
1 3/4	1	7/8	1	8.3	8.7	1 5/8	1	7/8	1	9.8	10.4
2	1 1/8	31/32	1 1/8	8.3	8.7	2	1 1/8	31/32	1 1/8	9.8	10.4
2 1/4	1 1/4	1 3/32	1 1/4	8.4	8.8	2 1/4	1 1/4	1 3/32	1 1/4	9.9	10.5
2 1/2	1 1/2	1 3/16	1 3/8	8.5	9.0	2 1/2	1 1/2	1 3/16	1 3/8	10.0	10.7
2 1/2	1 1/2	1 5/16	1 1/2	8 8	9.4	2 1/2	1 1/2	1 5/16	1 1/2	10.3	11.1

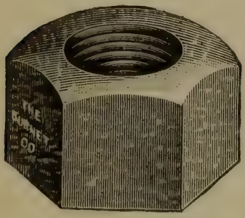


Fig. 93.
Case Hardened Nut.

FINISHED CASE HARDENED AND SEMI-FINISHED

HEXAGON NUTS.

The Thread and Outside of each Finished Case-Hardened Nut are made to an accurate gauge, and to the standard adopted by the U. S. Government.

The Semi-Finished Nuts are our regular Chamfered and Trimmed United States Standard Hexagon Nuts, tapped and faced true on the bottom.

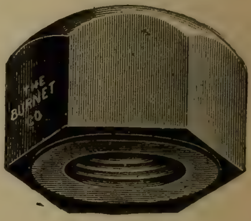


Fig. 94.
Semi-Finished Nut.

For Bolt.	Width.	Thickness.	Numbers of Threads.	Finished Case Hardened Nuts. Price each.	Semi-Finished Nuts. Price each.	Semi-Finished with Double Chamfer Price each.
1/4 in.	1/2	1/4	20	.06	.02	.02½
5/16 "	19/32	5/16	18	07	.02½	.03
3/8 "	11/16	3/8	16	.08	.03¼	.04
7/16 "	25/32	7/16	14	.09	.03¾	.04½
1/2 "	7/8	1/2	13 or (12)	.10	.04	.04¾
9/16 "	31/32	9/16	12	.12	.05	.06
5/8 "	1 1/16	5/8	11	.15	.05½	.06½
11/16 "	1 5/32	11/16	11	.17	.06½	.07¾
3/4 "	1 1/4	3/4	10	.18	.07½	.08¾
7/8 "	1 7/16	7/8	9	.22	.10	.11½
1 "	1 5/8	1	8	.30	.13½	.15½
1 1/8 "	1 13/16	1 1/8	7	.35	.17	.19½
1 1/4 "	2	1 1/4	7	.45	.24	.27
1 3/8 "	2 3/16	1 3/8	6	.55	.34	.38
1 1/2 "	2 3/8	1 1/2	6	.65	44	.48
1 5/8 "	2 9/16	1 5/8	5½	.80	54	.60
1 3/4 "	2 3/4	1 3/4	5	1.00	.70	.78
1 7/8 "	2 15/16	1 7/8	5	1.50	.90	1.00
2 "	3 1/8	2	4½	2.00	1.10	1.25
2 1/4 "	3 1/2	2 1/4	4½	3.50	1.50	1.80

LIGHT STEEL "T" RAIL.

8 lbs. to the yard,	per gross ton, $
12 " " "	" " "
16 " " "	" " "
20 " " "	" " "
25 " " "	" " "
30 " " "	" " "
35 " " "	" " "
40 " " "	" " "

FLAT STEEL RAILS.

PUNCHED AND COUNTERSUNK.

1½ to 2 by ½ to ⅝ inch,	per lb., $
1½ by ⅜ and 7-16 inch,	"
1¼ by ⅜, 7-16 and ½ inch,	"
1¼ and 1½ by ¼ inch,	"

FOLLOWER PLATES.

6 x 1 inch, Sawed to Length,	per lb., $
6 x 1⅛, 1¼, 1⅜ and 1½ inch, Sawed to Length,	"
6 x 1 inch, Sawed and Punched,	"
6 x 1⅛, 1¼, 1⅜ and 1½, Sawed and Punched,	"
6 x 1, Forged and Punched to Pattern,	"
6 x 1⅛, 1¼, 1⅜ and 1½, Forged and Punched to Pattern,	"

PERFECTION TIE PLUG. (Actual Size.)

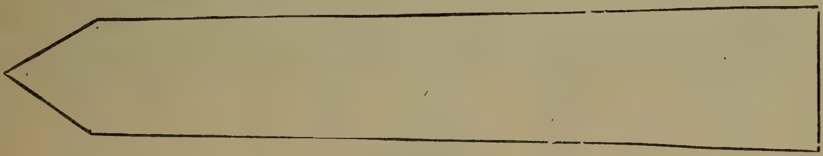


Fig. 95.

Made from Cedar, they will outlast any tie; and with a taper that makes them perfect as a plug, they add life, and permit respiking without injury to the ties, and cost less than any Railroad Company can make them for.

When desired they will be made from Elm, Pine, Basswood, or any of the ordinary woods suitable for the purpose. Cedar is especially recommended.

Price $ per 1,000, delivered on line of road, in lots of 100,000 or over.

THE PATENT VERONA NUT LOCK.

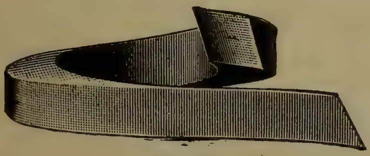


Fig. 96.

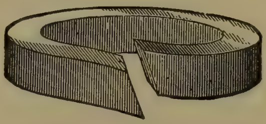


Fig. 97.

Size for Bolt, inches,	½,	⅝,	¾,	⅞,	1,
Price per 1,000, Fig. 97,	$5.00	5.50	6.65	7.25	8.25

Packed in boxes of 1,000 or 1,500 as desired.

For the Patent Improved Nut Lock with "Tail" add $1 00 per 1,000 to each of above sizes.

RAILROAD TRACK BOLTS.

ESTIMATED WEIGHT OF 1000 TRACK BOLTS.

With Button Heads and Oval Necks as Per Cut.

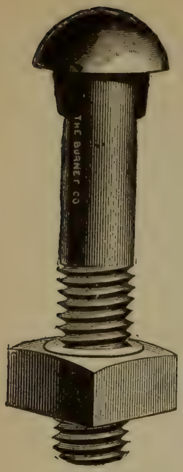


Fig. 98

Square Nut.

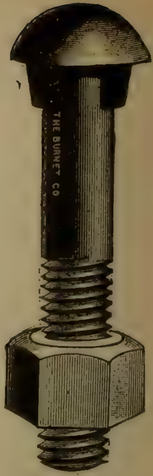


Fig. 99.

Hexagon Nut.

Dimensions of Bolts.	Size of Nuts.	WEIGHT OF 1000 Square Nuts. Pounds.	WEIGHT OF 1000 Hexagon Nuts. Pounds.
$\frac{1}{2}$ x 2	1 x $\frac{1}{2}$ x $\frac{7}{16}$	260	244
$\frac{1}{2}$ x $2\frac{1}{2}$	1 x $\frac{1}{2}$ x $\frac{7}{16}$	293	277
$\frac{9}{16}$ x $2\frac{1}{4}$	$1\frac{1}{8}$ x $\frac{9}{16}$ x $\frac{1}{2}$	365	337
$\frac{9}{16}$ x $2\frac{1}{2}$	$1\frac{1}{8}$ x $\frac{9}{16}$ x $\frac{1}{2}$	388	360
$\frac{5}{8}$ x $2\frac{1}{2}$	$1\frac{1}{4}$ x $\frac{5}{8}$ x $\frac{9}{16}$	485	452
$\frac{5}{8}$ x $2\frac{3}{4}$	$1\frac{1}{4}$ x $\frac{5}{8}$ x $\frac{9}{16}$	506	483
$\frac{5}{8}$ x 3	$1\frac{1}{4}$ x $\frac{5}{8}$ x $\frac{9}{16}$	556	533
$\frac{3}{4}$ x $3\frac{1}{2}$	U. S. Standard	818	788
$\frac{3}{4}$ x 4	“ “	880	840
$\frac{3}{4}$ x $4\frac{1}{4}$	“ “	899	870
$\frac{7}{8}$ x 3	“ “	1040	982
$\frac{7}{8}$ x 4	“ “	1334	1279
$\frac{7}{8}$ x $4\frac{7}{8}$	“ “	1366	1310
1 x $3\frac{1}{2}$	“ “	1350	1285

In quoting price of Track Bolts, it will be understood, when not otherwise expressed, that the quotation refers to Track Bolts with Button Heads and Oval Necks as per cuts. In ordering Track Bolts give diameter of nut. Prices quoted on application.

RAILROAD SPIKES.

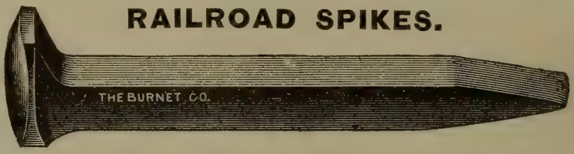

THE BURNET CO.

Fig. 100.

Size Measured under Head.	Av. No. per keg, 200 lbs.	No. to lay 1 mile track, 4 to tie. Ties 2 feet from centre to centre.	Rail used. Weight per yard.	Price per pound.
$5\frac{1}{2}$ x 9-16 inches	360	5800 lbs.=29 kegs	45 and over	$
5 x 9-16 “	400	5170 “ =$25\frac{7}{8}$ “	40 to 56	
$4\frac{1}{2}$ x $\frac{1}{2}$ “	530	3900 “ =$19\frac{1}{2}$ “	35 to 40	
4 x $\frac{1}{2}$ “	600	3520 “ =17 3-5 “	30 to 35	
$3\frac{1}{2}$ x $\frac{1}{2}$ “	680	3110 “ =15 3-5 “		
$4\frac{1}{2}$ x 7-16 “	680	3110 “ =15 3-5 “	28 to 30	
4 x 7-16 “	840	2560 “ =12 4-5 “		
$3\frac{1}{2}$ x 7-16 “	900	2350 “ =$11\frac{3}{4}$ “	20 to 28	
$3\frac{1}{2}$ x $\frac{3}{8}$ “	1180	1780 “ = $9\frac{7}{8}$ “	16 to 20	
3 x $\frac{3}{8}$ “	1370	1540 “ = $7\frac{3}{4}$ “		
$2\frac{1}{2}$ x $\frac{3}{8}$ “	1600	1320 “ = 6 3-5 “	12	
$2\frac{1}{2}$ x 5-16 “	2160	1000 “ = 5 “	8	

Reverse Points Extra.

FROST OR SHIMMING SPIKES.

9, 8, 7 x $\frac{9}{16}$ inches . . . . per pound, $

STREET RAILWAY SPIKES.

$\frac{5}{8}$ inch square, countersunk head . . . . per pound, $
$\frac{9}{16}$ “ “ “ “ . . . . “ “
$\frac{1}{2}$ “ “ “ “ . . . . “ “
$\frac{7}{16}$ “ “ “ “ . . . . “ “
$\frac{3}{8}$ “ “ “ “ . . . . “ “
$\frac{5}{16}$ “ “ “ “ . . . . “ “
$\frac{1}{4}$ “ “ “ “ . . . . “ “

BARGE SPIKES.

$\frac{5}{16}$ inch square, 5 to 12 inches long . . . . per pound, $
$\frac{1}{4}$ “ “ 4 to 6 “ “ . . . . “ “

Shorter than 4 inches $\frac{1}{4}$ cent extra. Prices quoted on application.

BOAT SPIKES.

$\frac{3}{4}$ in. Square, 12 to 24 inches length, ... per lb., $
$\frac{5}{8}$ " " 8 to 16 " " . . . . . "
$\frac{1}{2}$ " " 6 to 16 " " . . . . . "
$\frac{7}{16}$ " " 6 to 12 " " . . . . . "
$\frac{3}{8}$ " " 4 to 12 " " . . . . . "
$\frac{5}{16}$ " " 4 to 8 " " . . . . . "
$\frac{1}{4}$ " " 4 to 8 " " . . . . . "
$\frac{1}{4}$ " " 3 to $3\frac{1}{2}$ " " . . . . . "

$\frac{3}{8}$ and $\frac{5}{16}$ shorter than 4-inch, $\frac{1}{4}$ cent extra.

DOCK OR WHARF SPIKES.
(DRIFT BOLTS.)

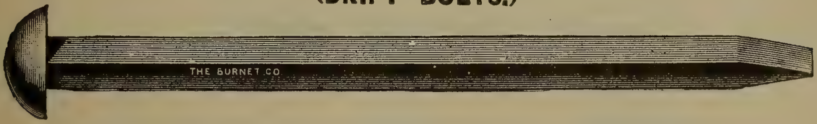


Fig. 101.

Oval Head, ... Per lb., $

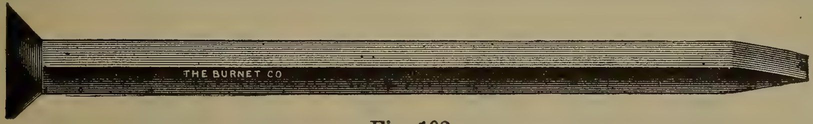


Fig. 102.

Countersunk Head, ... Per lb., $

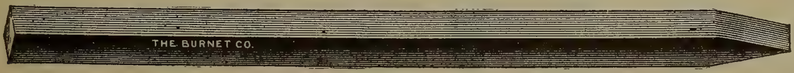


Fig. 103.

Headless, ... Per lb., $

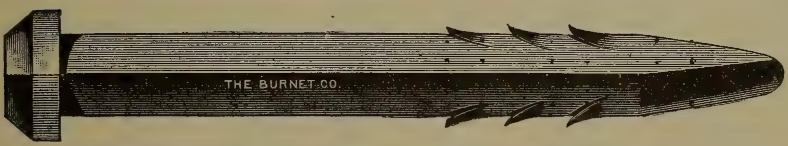


Fig. 104.

Nail Head, Ragged, ... Per lb., $

PRICES QUOTED ON APPLICATION.

Points made wedge shape or conical as preferred. The above illustrations show the ordinary styles—shapes of heads are varied according to requirement of specifications.

Dock Spikes are made from round iron when so specified. Inquiries or orders should describe the style wanted.

FISH PLATES AND BOLTS FOR ONE MILE SINGLE TRACK.

FOUR BOLTS PER JOINT.

Length of Rail.	No. Fish Plates Required.	No. Bolts per Mile.	No. of Rails or Complete Joints.
24 feet, ...	808	1760	440
25 "	844	1688	422
26 "	812	1624	406
27 "	782	1564	391
28 "	754	1508	377
30 "	704	1408	352

SPLICE BARS.

Plain, . . per lb., $ | Angle, . . per lb., $

SPLICE JOINTS COMPLETE FOR LIGHT RAILS.

8 and 10 lbs., . . each, $ | 25 and 30 lbs., . . each, $
12, 16 and 20 lbs., . " $ | 35 and 40 lbs., . . . " $

BOILER RIVETS.

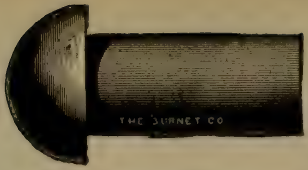


Fig. 105.
Oval Head.

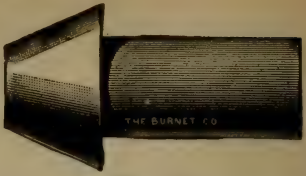


Fig. 106.
Cone Head.

½ inch diameter . . . . per pound, $
⅝ " " and larger . . . . " "

BRIDGE AND CAR RIVETS.

⅜ inch diameter . . . . per pound, $
7/16 " " . . . . " "
½ " " . . . . " "
⅝ " " and larger . . . . " "

AVERAGE NUMBER OF CONE-HEAD BOILER RIVETS IN 100 POUNDS.

Diameter Lengths.	⅜	7/16	½	9/16	⅝	11/16	¾	⅞
¾	1965	1429	1092	944	665	. .	. .	. .
⅞	1848	1335	1027	846	597	. .	. .	. .
1	1692	1222	940	763	538	450	. .	. .
1¼	1437	1036	797	691	487	389	356	228
1½	1300	949	730	624	440	357	280	180
1¾	1200	900	693	553	390	325	262	169
2	1100	789	608	511	360	297	243	156
2¼	999	721	555	491	347	280	232	149
2½	945	682	525	475	335	265	220	141
2¾	900	650	500	443	312	242	208	133
3	828	598	460	411	290	224	197	127
3¼	779	562	433	379	267	212	180	115
3½	743	536	413	352	248	201	169	108
3¾	715	513	395	341	241	192	160	102
4	. .	. .	. .	326	230	184	158	99
4½	. .	. .	. .	298	210	171	146	94
5	. .	. .	. .	270	190	161	135	87
5½	. .	. .	. .	244	172	151	124	80
6	. .	. .	. .	223	157	140	115	74
7	. .	. .	. .	198	140	125	100	64

TANK RIVETS.

Iron Rivets in Bulk. Any Style Head.

PRICE PER POUND.

LENGTH OF RIVETS.

Size.	½	15/32	7/16	13/32	⅜	11/32	5/16	9/32	¼	7/32	3/16	5/32	⅛	3/32
7/16, ⅜, 11/32	15	15	15	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .	. .
5/16	15½	16½	16½	16½	16½	. .	. .	. .	. .	. .	. .	. .	. .	. .
1	15½	16½	16½	16½	16½	16½	. .	. .	. .	. .	. .	. .	. .	. .
2	15½	16½	16½	16½	16½	17	17	. .	. .	. .	. .	. .	. .	. .
3	15½	16	17	17	17	17	18	18	18	. .	. .	. .	. .	. .
¼	15½	16	17	17	17	17	18	18	18	19	19	. .	. .	. .
4	15½	17	17	18	18	18	18	18	18	19	19	20	. .	. .
5	16	17	18	18	18	18	19	20	20	21	21	22	22	23
6	16	17	18	18	19	19	20	20	21	22	23	23	23	24
3/16	16	17	18	18	19	19	20	20	21	22	23	24	25	26
7	16½	18	18	18	19	19	20	20	21	22	23	24	25	26
8	17	18	19	19	20	20	21	21	22	23	24	25	26	27
9	18	19	20	20	21	21	23	23	23	24	25	27	29	30
10	19	20	21	22	23	25	27	28	28	30	33	35	37	38
11	20	22	24	26	27	28	30	31	31	33	37	40	42	45
12	21	24	26	28	29	30	32	34	35	36	41	45	50	55
13	25	27	30	33	34	35	37	39	40	41	45	50	55	60
14	27	30	35	38	40	45	50	52	55	58	58	60	63	65

☞ Rivets made from smaller wire than No. 14, all lengths, 70 cents per pound.

IRON RIVETS.

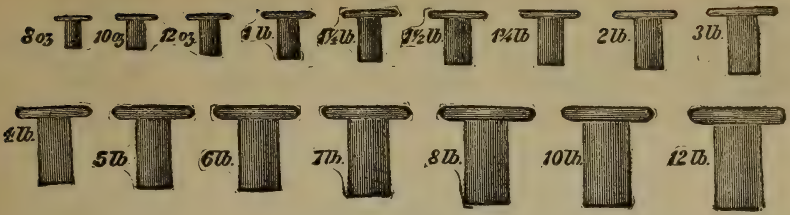


Fig. 107.

	In Packages of 1,000, Price per 1,000.		In Bulk, Price Per Pound.	
Size.	Black.	Tinned.	Black.	Tinned.
8 oz.	$0.20	$0.24	$0.38	$0.45
10 oz.	.22	.25	.34	.40
12 oz.	.24	.28	.31	.37
14 oz.	.26	.30	.29	.35
1 lb.	.27	.33	.26	.32
1¼ lb.	.29	.37	.23	.29
1½ lb.	.33	.42	.22	.28
1¾ lb.	.37	.48	.21	.27
2 lb.	.42	.54	.20	.26
2½ lb.	.55	.69	.20	.26
3 lb.	.60	.78	.19	.25
3½ lb.	.70	.81	.19	.25
4 lb.	.76	1.00	.18	.24
5 lb.	.90	1.20	.17	.23
6 lb.	1.08	1.44	.17	.23
7 lb.	1.26	1.68	.17	.23
8 lb.	1.44	1.92	.17	.23
9 lb.	1.53	2.07	.16	.22
10 lb.	1.75	2.35	.16	.22
12 lb.	1.98	2.70	.15½	.21½
14 lb.	2.31	3.15	.15½	.21½
16 lb.	2.64	3.60	.15½	.21½

Above prices are for common flat head regular size rivets only. Oval or countersunk heads or extra lengths 5 cents per 1,000 added to above prices.

COPPER RIVETS AND BURRS.

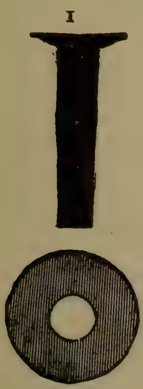


Fig. 108.

Fig. 109.

Fig. 110.

Fig. 111.

Fig. 112.

Nos.	7	8	9	10	11	12	13	14	15
Per lb.	$0.49	.50	.52	.54	.56	.58	.60	.65	.70

Belt and hose rivets are packed as follows: Rivets *only* in 4 lb. or 1 lb. paper boxes. Rivets and burrs mixed (equal quantities of each), in 1 lb. or ½ lb. paper boxes. Burrs only in 1 lb. boxes.

For rivets and burrs, uniform lengths, in ½ lb. boxes, add 3 cents per pound to list
For rivets and burrs, assorted (⅜ to ¾), in 1 lb. boxes, add 3 cents per pound to list.
For rivets and burrs, assorted (⅜ to ¾), in ½ lb. boxes, add 6 cents per lb. to list.

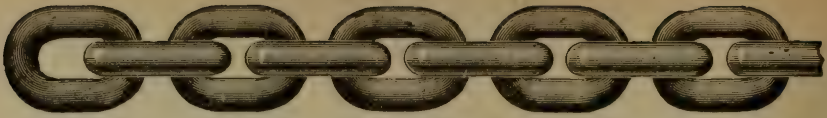


Fig. 113.

	COIL.				B. B. CRANE.				B. B. B. CRANE.				BEST SPECIAL DREDGE.			
SIZE.	Price per Pound.	Weight per Fathom	Proof. Tons.	Breaking Strain. Tons.	Price per Pound.	Weight per Fathom.	Proof Tons.	Breaking Strain Tons.	Price per Pound.	Weight per Fathom.	Proof Tons.	Breaking Strain. Tons.	Price per Pound.	Weight per Fathom.	Proof Tons.	Breaking Strain. Tons.
3-16		2	1-4	1-2		2 3-4	1-2	7-8		2 3-4	5-8	......		......	....	......
1-4		4 1-2	1-2	1		5	3-4	1 1-2		5	1	2		......	....	......
5-16		6 1-2	1	2		7	1 1-4	2 1-2		7	1 1-2	3		......	....	......
3-8		8 1-2	1 3-4	3 1-2		9 1-2	2	4		9 1-2	2 1-4	4 1-2		......	....	......
7-16		11	2 3-4	5 1-2		12	3	6		12	3 1-4	7		......	....	......
1-2		14	3 1-8	6 1-4		15	3 1-2	7 3-4		15	4	8 1-2		15	4 1-2	9
9-16						19	4 1-2	9		19	5	10		19	5 1-2	11
		STUD LINK.														
5-8		24	7	11		26	5 1-2	11		26	6	13		26	7	13 1-2
11-16		29	8 1-4	14		32	7	14		32	7 1-4	15		32	8 1-2	16 1-4
3-4		34	10 1-8	16		37	8	16		37	8 3-4	18		37	10	20
13-16		40	11 7-8	18		42	9 1-2	19		42	9 1-2	20		42	11 1-2	21
7-8		44	14	21		48	10	20		48	11	22		48	13	24
15-16		51	15 8-10	24		55	12	24		55	12 1-2	25		55	14 1-2	27
1		59	18	27		63	13	26		63	14	28 1-2		63	16	30 1-2
1 1-16		66	20 3-10	31		70	14	28		70	16	32 1-2		70	17 1-2	34 1-2
1 1-8		75	22 3-4	35		79	16	30		79	18	36		79	20	39
1 3-16		82	25 3-8	38		88	18	36		88	20	40		88	23	44
1 1-4		91	28 1-8	43		98	21	42		98	22	44		98	25 1-2	47 1-2
1 5-16		103	31	47		105	23	46		105	24	48		105	27	52
1 3-8		113	34	51		118	25	50		118	26 1-2	54		118	29	57
1 7-16		120	37 1-8	56		127	27	54		127	29	58		127	31	61
1 1-2		132	40 5-10	59		138	30	60		138	31	62		138	33 1-2	67
1 9-16		143	43 9-10	62		151	32	64		151	33	66		151	35 1-4	71
1 5-8		156	47 5-10	67		160	35	70		160	36	72		160	38 1-2	77
1 11-16		162	51 1-4	72												
1 3-4		175	55 1-8	78												
1 13-16		189	59 1 8	83												
1 7-8		205	63 1-4	89												
1 15-16		222	67 5-10	95												
2		240	72	101												
2 1-16		250	76 5-10	108												
2 1 8		280	81 1-4	114												
2 3-16		300	86 1-8	121												
2 1-4		325	91 1-8	128												
2 3-8		375	101 5-10	143												
2 1-2		425	112 5-10	158												

MANUFACTURERS' AGENTS FOR

High Class Ship's Cables, Crane, Mining and Rigging Chains, Chains for Differential Pulley Blocks, Special Crane Chains, Steel and Iron Dredging Chains, all sizes Machine Chains, etc.

Special Prices quoted on specifications for Brake Chain.

TOOL STEEL.

BLACK DIAMOND.	**SILVER STEEL.**	**EXTRA SPECIAL**
Per lb. Base, $	Per lb. Base, $	Per lb. Base, $
CRESCENT.	**CRESCENT EXTRA.**	**CRESCENT SPECIAL.**
Per lb. Base, $	Per lb. Base, $	Per lb. Base, $

Annealed, 1/2c. per lb. extra.

ROUND, SQUARE AND OCTAGON.

Base sizes, 5/8 to 2 inches.

The following are extra prices charged above Base price;

	Extra per lb.		Extra per lb.		Extra per lb.
1/8 in.,	18.0c.	11/32 in.,	2.0c.	2 1/8 to 3 in.,	1.0c.
5/32 “	10 0c.	3/8 “	1.0c.	3 1/8 to 4 “	1.5c.
3/16 “	5 0c.	7/16 “	1.0c.	4 1/8 to 5 “	2.0c.
1/4 “	3.0c.	1/2 “	0.5c.	5 1/8 to 6 “	2.5c.
9/32 “	3.0c.	9/16 “	0.5c.	6 1/8 to 7 “	3.0c.
5/16 “	2.0c.			7 1/8 to 8 “	3.5c.

FLATS.

Base sizes 5/8 to 2 in. thick x 9/16 to 2 in. wide.

	Extra per lb.		Extra per lb.		Extra per lb.
1/8 x 3/16	20.0c.	3/16 x 2 1/8 to 7	1.0c.	5/8 to 2 in. x 2 1/8 to 7 in.	1.0c.
1/8 x 1/4	15.0c.	3/16 x 7 1/8 to 8	2.0c.	5/8 to 1 3/4 x 7 1/8 to 8	1.0c.
1/8 x 5/16	8.0c.	1/4 x 5/16 to 3/8	2.0c.	1 7/8 to 2 x 7 1/8 to 8	1.5c.
1/8 x 3/8	4.0c.	1/4 x 7/16 to 2	1.5c.	2 1/8 to 3 x 2 1/8 to 5	1.0c.
1/8 x 7/16 to 1/2	3.0c.	1/4 x 2 1/8 to 7	1.0c.	2 1/8 to 3 x 5 1/8 to 8	1.5c.
1/8 x 9/16 to 7	2.0c.	1/4 x 7 1/8 to 8	2.0c.	3 1/8 to 4 x 3 1/8 to 6	1.5c.
1/8 x 7 1/8 to 8	3.0c.	5/16 x 3/8 to 5/8	1.5c.	3 1/8 to 4 x 6 1/8 to 8	2.0c.
3/16 x 1/4	5.0c.	5/16 x 11/16 to 8	1.0c.	4 1/8 to 5 x 4 1/8 to 7	2.0c.
3/16 x 5/16	4.0c.	3/8 x 7/16 to 8	1.0c.	4 1/8 to 5 x 7 1/8 to 8	2.5c.
3/16 x 3/8	3.0c.	7/16 x 1/2 to 8	1.0c.	5 1/8 to 6 x 5 1/8 to 8	2.5c.
3/16 x 7/16 to 5/8	2.0c.	1/2 x 9/16 to 8	1.0c.	6 1/8 to 7 x 6 1/8 to 7	3.0c.
3/16 x 11/16 to 2	1.5c.	9/16 x 2 1/8 to 8	1.0c.	6 1/8 to 8 x 7 1/8 to 8	3.5c.

Cutting to multiples or specified lengths, 1/2c. per lb. for over 24 in.; under, according to contract.

CLASSIFICATION OF SPRING STEEL.

ROUND AND SQUARE.

	Extra per lb.
5/8 to 1 1/2 in.	Base.
1/2 to 9/16 in.	0.2c.
3/8 to 7/16 in.	0.5c.
5/16	1.0c.
1/4	1.5c.

FLATS.

	Extra per lb.
1 1/4 to 4 in. x No. 4 gauge to 1/2 in. inclusive,	Base.
1 to 1 1/8 in. x No. 1 gauge to 4 gauge “	0.2c.
1 to 3 in. x No. 5 gauge to 7 gauge “	0.5c.
3/4 to 15/16 in. x No. 1 gauge to 7 gauge “	0.5c.
3/8 to 11/16 in. x No. 1 gauge to 7 gauge “	1.0c.
3/4 to 3 in. x No. 8 gauge to 10 gauge “	1.0c.
3/4 to 3 in. x No. 11 gauge to 16 gauge “	1.5c.

Cutting to lengths 24 inches and over, 2/10c. per lb. extra; under 24 inches, according to agreement.

MUSHET STEEL.

Titanic, per lb., $	Self-hardening, per lb., $	Special, per lb., $

Standard Classification of Extras for

MILD BESSEMER STEEL.

Adopted November 10th, 1899.

ROUNDS AND SQUARES.

	Per 100 lbs
3/4 to 3 inches	Base.

Size	Per 100 lbs.	Size	Per 100 lbs
5/8 to 11/16 “	$0.10 extra.	3 1/16 to 3 1/2 inches	$0.30 extra.
1/2 to 9/16 “	.20 “	3 9/16 to 4 “	.50 “
7/16 “	.40 “	4 1/16 to 4 1/2 “	.60 “
3/8 “	.50 “	4 9/16 to 5 “	.80 “
5/16 “	.60 “	5 1/8 to 5 1/2 “	1.00 “
1/4 and 9/32 “	.70 “	5 5/8 to 6 “	1.50 “
7/32 “	1.00 “	6 1/8 to 6 1/2 “	2.00 “
3/16 “	2.00 “	6 5/8 to 7 1/4 “	2.50 “

For intermediate sizes, the next highest extra to be charged.

We do not make squares larger than 4 inches.

FLAT BARS AND HEAVY BANDS.

	Per 100 lbs.
1 to 6 inches x 3/8 to 1 inch	Base.

Size	Per 100 lbs.	Size	Per 100 lbs.
1 to 6 inches x 1/4 and 5/16 inch	$0.20 extra.	7/16 inches x 3/8 inch	$1.00 extra.
11/16 to 15/16 “ x 3/8 to 3/4 “	.40 “	7/16 “ x 1/4 and 5/16 “	1.20 “
11/16 to 15/16 “ x 1/4 and 5/16 “	.50 “	3/8 “ x 1/4 and 5/16 “	1.50 “
9/16 and 5/8 “ x 3/8 to 1/2 “	.50 “	1 1/8 to 6 “ x 1 1/16 to 1 3/16 “	.10 “
9/16 and 5/8 “ x 1/4 and 5/16 “	.70 “	1 1/8 to 6 “ x 1 1/4 to 1 1/2 “	.20 “
1/2 “ x 3/8 and 7/16 “	.90 “	1 3/4 to 6 “ x 1 5/8 to 2 3/4 “	.30 “
1/2 “ x 1/4 and 5/16 “	1.10 “	3 1/8 to 6 “ x 3 to 4 “	.40 “

For intermediate sizes, the next highest extra to be charged.

LIGHT BARS AND BANDS.

Size	Per 100 lbs.
1 1/2 to 6 inch x Nos. 7, 8, 9 and 3/16 inch	$0.40 extra.
1 1/2 to 6 “ x “ 10, 11 12 and 1/8 inch	.60 “
1 to 1 7/16 “ x “ 7, 8, 9 and 3/16 inch	.50 “
1 to 1 7/16 “ x “ 10, 11, 12 and 1/8 inch	.70 “
13/16 to 15/16 “ x “ 7, 8, 9 and 3/16 inch	.70 “
13/16 and 15/16 “ x “ 10, 11, 12 and 1/8 inch	.80 “
11/16 “ 3/4 “ x “ 7, 8, 9 and 3/16 inch	1.00 “
11/16 “ 3/4 “ x “ 10, 11, 12 and 1/8 inch	1.20 “
9/16 “ 5/8 “ x “ 7, 8, 9 and 3/16 inch	1.20 “
9/16 “ 5/8 “ x “ 10, 11, 12 and 1/8 inch	1.30 “
1/2 x “ 7, 8, 9 and 3/16 inch	1.30 “
1/2 x “ 10, 11, 12 and 1/8 inch	1.50 “
7/16 x “ 7, 8, 9 and 3/16 inch	1.80 “
7/16 x “ 10, 11, 12 and 1/8 inch	2.10 “
3/8 x “ 7, 8, 9 and 3/16 inch	1.90 “
3/8 x “ 10, 11, 12 and 1/8 inch	2.40 “

For intermediate sizes, the next highest extra to be charged.

OVALS.

Sizes, inches.	7/8 to 1 1/4	3/4 to 13/16	5/8 to 11/16	1/2 to 9/16	3/8 to 7/16
Extra per 100 lbs.	$0.40	.50	.60	.80	1.00

For intermediate sizes, the next highest extra to be charged.

HALF OVALS AND HALF ROUNDS.

Sizes, inches.	7/8 to 2	3/4 to 13/16	5/8 to 11/16	1/2 to 9/16	5/8 to 7/16
Extra per 100 lbs.	$0.50	.60	.70	.90	1.10

For intermediate sizes, the next highest extra to be charged.

EXTRA FOR CUTTING ORDINARY BARS TO SPECIFIC LENGTHS.

Machine cutting, specified lengths, above 24 inches, 2/10 cent per lb. extra.

Machine cutting, to specified lengths, 12 to 24 inches, 4/10 cent per lb. extra.

Machine cutting, to specified lengths, less than 12 inches, according to contract, but not less than 6/10 cent per lb. on each size extra.

Hot sawing or shearing, 24 inch and longer bars, 1/10 cent per lb. extra.

Hot sawing or shearing, 12 to 24 inches, 2/10 cent per lb. extra.

Hot shearing, 6 to 12 inches, 3/10 cent per pound extra.

NATIONAL BAR IRON MANUFACTURERS' SCHEDULE

OF

Minimum Extra Prices above the Base Bar Price, to be Charged for Extra Sizes of Iron.

Adopted March 16, 1899.

BASE PRICE, - - - PER LB., $

ROUNDS AND SQUARES.

$\frac{3}{16}$	$2\frac{5}{10}$ extra.	$\frac{1}{2}$ to $\frac{9}{16}$	$\frac{3}{10}$ extra.	$3\frac{5}{8}$ to 4	$\frac{8}{10}$ extra.
$\frac{7}{32}$	$1\frac{4}{10}$ "	$\frac{5}{8}$ to $\frac{11}{16}$	$\frac{2}{10}$ "	$4\frac{1}{8}$ to $4\frac{1}{2}$	1c. "
$\frac{1}{4}$ to $\frac{9}{32}$	$\frac{9}{10}$ "	$\frac{3}{4}$ to $\frac{7}{8}$	$\frac{1}{10}$ "	$4\frac{5}{8}$ to 5	$1\frac{3}{10}$ "
$\frac{5}{16}$ to $\frac{11}{32}$	$\frac{7}{10}$ "	1 to $1\frac{7}{8}$	Base sizes no extra.	$5\frac{1}{8}$ to 6	$1\frac{8}{10}$ "
$\frac{3}{8}$ to $\frac{13}{32}$	$\frac{5}{10}$ "	2 to $2\frac{7}{8}$	$\frac{2}{10}$ extra.	$6\frac{1}{8}$ to $6\frac{1}{2}$	$2\frac{2}{10}$ "
$\frac{7}{16}$ to $\frac{15}{32}$	$\frac{4}{10}$ "	3 to $3\frac{1}{2}$	$\frac{5}{10}$ "	$6\frac{5}{8}$ to $7\frac{1}{4}$	$2\frac{5}{10}$ "

FLATS.

$\frac{3}{8}$ to $\frac{7}{16}$	x $\frac{1}{4}$ to $\frac{5}{16}$	$1\frac{5}{10}$ extra.	$4\frac{1}{4}$ to 6	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{3}{10}$ extra.
$\frac{1}{2}$ to $\frac{9}{16}$	x $\frac{1}{4}$ to $\frac{5}{16}$	1c. "	$4\frac{1}{4}$ to 6	x $\frac{3}{8}$ to 1	$\frac{1}{10}$ "
$\frac{1}{2}$ to $\frac{9}{16}$	x $\frac{3}{8}$ to $\frac{1}{2}$	$\frac{9}{10}$ "	$4\frac{1}{4}$ to 6	x $1\frac{1}{16}$ to $1\frac{1}{2}$	$\frac{4}{10}$ "
$\frac{5}{8}$ to $\frac{11}{16}$	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{8}{10}$ "	$4\frac{1}{4}$ to 6	x $1\frac{5}{8}$ to 2	$\frac{6}{10}$ "
$\frac{5}{8}$ to $\frac{11}{16}$	x $\frac{3}{8}$ to $\frac{5}{8}$	$\frac{5}{10}$ "	$4\frac{1}{4}$ to 6	x $2\frac{1}{8}$ to 3	$\frac{8}{10}$ "
$\frac{3}{4}$ to $\frac{15}{16}$	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{5}{10}$ "	$6\frac{1}{4}$ to $6\frac{3}{4}$	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{5}{10}$ "
$\frac{3}{4}$ to $\frac{15}{16}$	x $\frac{3}{8}$ to $\frac{3}{4}$	$\frac{4}{10}$ "	7 to 8	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{7}{10}$ "
1 to $1\frac{3}{8}$	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{3}{10}$ "	$6\frac{1}{4}$ to 8	x $\frac{3}{8}$ to $1\frac{1}{2}$	$\frac{6}{10}$ "
1 to $1\frac{1}{16}$	x $\frac{3}{8}$ to $\frac{7}{8}$	$\frac{2}{10}$ "	$6\frac{1}{4}$ to 8	x $1\frac{5}{8}$ to 2	$\frac{8}{10}$ "
$1\frac{1}{8}$ to $1\frac{3}{8}$	x $\frac{3}{8}$ to 1	$\frac{1}{10}$ "	$6\frac{1}{4}$ to 8	x $2\frac{1}{8}$ to 3	1c. "
$1\frac{1}{2}$ to 4	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{2}{10}$ "	$8\frac{1}{4}$ to 10	x $\frac{1}{4}$ to $\frac{5}{16}$	$\frac{7}{10}$ "
$1\frac{1}{2}$ to 4	x $\frac{3}{8}$ to 1	Base no extra.	$8\frac{1}{4}$ to 10	x $\frac{3}{8}$ to 1	$\frac{8}{10}$ "
$1\frac{3}{8}$ to 4	x $1\frac{1}{16}$ to $1\frac{1}{2}$	$\frac{3}{10}$ "	$8\frac{1}{4}$ to 10	x $1\frac{1}{16}$ to $1\frac{1}{2}$	$\frac{9}{10}$ "
2 to 4	x $1\frac{5}{8}$ to 2	$\frac{5}{10}$ "	$8\frac{1}{4}$ to 10	x $1\frac{5}{8}$ to 2	1c. "
2 to 4	x $2\frac{1}{8}$ to 3	$\frac{6}{16}$ "			

Flats $\frac{7}{32}$ thick $\frac{1}{10}$c. per lb. higher than $\frac{1}{4}$ to $\frac{5}{16}$ thick. Bevel edge Shaft Iron $\frac{1}{10}$c. higher than same size of Flats. All round edge Iron $\frac{1}{10}$c. per lb. extra. Horse Shoe Iron, all sizes, 1c. per lb. extra.

OVAL IRON.

$\frac{3}{8}$ to $\frac{7}{16}$	$1\frac{1}{10}$ extra.	$\frac{1}{2}$ to $\frac{9}{16}$ x $\frac{3}{16}$	1c. extra.	$\frac{5}{8}$ to $\frac{11}{16}$ x $\frac{1}{8}$	$1\frac{2}{10}$ extra.
$\frac{1}{2}$ to $\frac{9}{16}$	$\frac{8}{10}$ "	$\frac{5}{8}$ to $\frac{11}{16}$	$\frac{6}{10}$ "	$\frac{3}{4}$ to $\frac{13}{16}$	$\frac{5}{10}$ "

$\frac{7}{8}$ to $1\frac{1}{2}$ . . . . $\frac{4}{10}$ extra.

HALF OVAL AND HALF ROUND.

$\frac{1}{4}$	$4\frac{5}{10}$ extra.	$\frac{3}{8}$ to $\frac{7}{16}$	$2\frac{5}{10}$ extra.	$\frac{5}{8}$ to $\frac{11}{16}$	$\frac{9}{10}$ extra.	$\frac{7}{8}$ to 2	$\frac{5}{10}$ extra.
$\frac{5}{16}$	$3\frac{5}{10}$ "	$\frac{1}{2}$ to $\frac{9}{16}$	$1\frac{2}{10}$ "	$\frac{3}{4}$ to $\frac{13}{16}$	$\frac{7}{10}$ "	$2\frac{1}{4}$ to 3	$\frac{6}{10}$ "

Half ovals less than $\frac{1}{4}$ their width in thickness, extra price.

LIGHT BANDS.

$\frac{3}{8}$	x Nos. 10, 11 and 12	$1\frac{6}{10}$ extra.	1 to $1\frac{3}{16}$	x Nos. 10, 11 and 12	$\frac{6}{10}$ extra.
$\frac{3}{8}$	x No. 9 to $\frac{3}{16}$	$1\frac{5}{10}$ "	1 to $1\frac{3}{16}$	x No. 9 to $\frac{3}{16}$	$\frac{5}{10}$ "
$\frac{7}{16}$ to $\frac{1}{2}$	x Nos. 10, 11 and 12	$1\frac{4}{10}$ "	$1\frac{1}{4}$ to 4	x Nos. 10, 11 and 12	$\frac{5}{10}$ "
$\frac{7}{16}$ to $\frac{1}{2}$	x No. 9 to $\frac{3}{16}$	$1\frac{3}{10}$ "	$1\frac{1}{4}$ to 4	x No. 9 to $\frac{3}{16}$	$\frac{4}{10}$ "
$\frac{9}{16}$ to $\frac{5}{8}$	x Nos. 10, 11 and 12	$1\frac{1}{10}$ "	$4\frac{1}{4}$ to 6	x Nos. 10, 11 and 12	$\frac{6}{10}$ "
$\frac{9}{16}$ to $\frac{5}{8}$	x No. 9 to $\frac{3}{16}$	1c. "	$4\frac{1}{4}$ to 6	x No. 9 to $\frac{3}{16}$	$\frac{5}{10}$ "
$\frac{11}{16}$ to $\frac{3}{4}$	x Nos. 10, 11 and 12	$\frac{9}{10}$ "	$6\frac{1}{4}$ to $6\frac{3}{4}$	x Nos. 10, 11 and 12	$\frac{8}{10}$ "
$\frac{11}{16}$ to $\frac{3}{4}$	x No. 9 to $\frac{3}{16}$	$\frac{8}{10}$ "	$6\frac{1}{4}$ to $6\frac{3}{4}$	x No. 9 to $\frac{3}{16}$	$\frac{7}{10}$ "
$\frac{13}{16}$ to $\frac{7}{8}$	x Nos. 10, 11 and 12	$\frac{7}{10}$ "	7 to 8	x Nos. 10, 11 and 12	1c. "
$\frac{13}{16}$ to $\frac{7}{8}$	x No. 9 to $\frac{3}{16}$	$\frac{6}{10}$ "	7 to 8	x No. 9 to $\frac{3}{16}$	$\frac{9}{10}$ "

Bevel Edge Box Iron same as Light Bands of same sizes. Beaded Band Iron $1\frac{1}{4}$ to 2 inches, $\frac{7}{10}$ extra. Sand Band Iron $\frac{1}{10}$c. above same sizes of Light Bands. Cutting to length $\frac{2}{10}$ to $\frac{3}{10}$ extra, according to length and size.

Common Iron is made only within the following ranges of sizes: Rounds and Squares, $\frac{1}{2}$ to $1\frac{1}{2}$ inches, inclusive. Flats, 1 to $3\frac{1}{2}$ inches wide, inclusive, by $\frac{1}{4}$ to $1\frac{1}{4}$ inches thick.

WEIGHT OF ROUND AND SQUARE ROLLED IRON.

PER LINEAL FOOT. 1-16 TO 6 INCHES.

Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.	Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.	Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.
1/16	.010	.013	1 5/16	4.573	. .	3 5/8	34.886	44.418
1/8	.041	.053	1 3/8	5.019	6·390	3 3/4	37.332	47.534
3/16	.094	.119	1 7/16	5.486	. .	3 7/8	39.864	50.756
1/4	.165	.211	1 1/2	5.972	7.604	4	42.464	54.084
5/16	.261	.330	1 5/8	7.010	8.926	4 1/8	45.174	57.517
3/8	.373	.475	1 3/4	8.128	10.352	4 1/4	47.952	61.055
7/16	.508	.647	1 7/8	9.333	11.883	4 3/8	50.815	64.700
1/2	.663	.845	2	10.616	13.520	4 1/2	53.760	68.448
9/16	.840	1.069	2 1/8	11.988	15.263	4 5/8	56.788	72.305
5/8	1.043	1.320	2 1/4	13.440	17.112	4 3/4	59.900	76.264
11/16	1.255	1.597	2 3/8	14.975	19.066	4 7/8	63.094	80.333
3/4	1.493	1.901	2 1/2	16.688	21.120	5	66.752	84.480
13/16	1.752	2.231	2 5/8	18.293	23.292	5 1/8	69.731	88.784
7/8	2.032	2.588	2 3/4	20.076	25.560	5 1/4	73.172	93.168
15/16	2.333	2.971	2 7/8	21.944	27.939	5 3/8	76.700	97.657
1	2.654	3.380	3	23.888	30.416	5 1/2	80.304	102.240
1 1/16	2.997	3.816	3 1/8	25.926	33.010	5 5/8	84.001	106.953
1 1/8	3.360	4.278	3 1/4	28.040	35.704	5 3/4	87.776	111.756
1 3/16	3.744	. .	3 3/8	30.240	38.503	5 7/8	91.634	116.671
1 1/4	4.172	5.280	3 1/2	32.512	41.408	6	95.552	121.664

WEIGHT OF ROUND AND SQUARE STEEL.

PER LINEAL FOOT. 1-16 TO 12 INCHES.

Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.	Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.	Size in Inches.	Rounds. Weight in lbs.	Squares. Weight in lbs.
1/16	0.010	0.013	2 3/8	15.07	19.19	4 7/8	63.52	80.87
1/8	0.041	0.530	2 1/2	16.70	21.26	5	66.82	85·08
3/16	0.094	0.120	2 5/8	18.41	23.44	5 1/8	70.20	89.38
1/4	0.167	0.213	2 3/4	20.21	25 73	5 1/4	73.67	93.80
3/8	0.375	0.478	2 7/8	22.09	28.12	5 3/8	77.21	98.31
1/2	0.668	0.851	3	24.05	30.62	5 1/2	80 85	102.94
5/8	1.044	1.329	3 1/8	26.10	33 23	5 5/8	84 56	107.67
3/4	1.503	1.914	3 1/4	28.23	35.94	5 3/4	88 37	112·52
7/8	2.046	2.605	3 3/8	30 43	38.75	5 7/8	92.25	117.45
1	2.672	3.402	3 1/2	32.74	41.68	6	96.22	122.51
1 1/8	3.382	4 306	3 5/8	35.12	44 71	6 1/4	104.41	132.94
1 1/4	4.175	5.316	3 3/4	37.57	47.84	6 1/2	112.92	143.78
1 3/8	5.052	6.432	3 7/8	40.13	51.09	6 3/4	121.78	155 05
1 1/2	6.012	7.655	4	42.77	54.45	7	130 99	166.75
1 5/8	7.056	8.984	4 1/8	45.47	57.90	7 1/2	150.34	191.42
1 3/4	8.183	10.419	4 1/4	48.28	61.47	8	171.04	217.78
1 7/8	9.394	11.916	4 3/8	51.15	65.13	8 1/2	193.10	245.86
2	10.69	13.61	4 1/2	54.83	69.81	9	216.49	275.64
2 1/8	12.06	15.36	4 5/8	57.17	72.79	10	267.16	340.29
2 1/4	13.52	17 22	4 3/4	60.30	76.78	12	384.77	487.91

WEIGHT OF FLAT IRON PER LINEAL FOOT.

Size.	1/8	1/4	5/16	3/8	7/16	1/2	5/8	3/4	7/8	1	1 1/4	1 1/2
1/2	.211	.422	.528	.634	.738	.845	1.056	1.265	1.477	1.690	2.112	2.535
5/8	.264	.528	.660	.792	.923	1.056	1.320	1.584	1.846	2.112	2.640	3.168
3/4	.316	.633	.792	.950	1.108	1.265	1.584	1.901	2.217	2.534	3.168	3.802
7/8	.369	.738	.923	1.108	1.294	1.477	1.846	2.217	2.588	2.956	3.696	4.435
1	.422	.845	1.056	1.267	1.478	1.690	2.112	2.534	2.956	3.380	4.224	5.069
1 1/8	.475	.950	1.187	1.425	1.663	1.901	2.375	2.850	3.326	3.802	4.752	5.703
1 1/4	.528	1.056	1.320	1.584	1.848	2.112	2.640	3.168	3.696	4.224	5.280	6.337
1 3/8	.580	1.161	1.452	1.742	2.032	2 325	2.904	3.484	4.065	4.646	5.808	6.970
1 1/2	.633	1.266	1.584	1.900	2.217	2.535	3.168	3.802	4.435	5.069	6.337	7.604
1 5/8	.686	1.372	1.716	2.059	2.402	2.746	3.432	4.119	4.805	5.492	6.864	8.237
1 3/4	.739	1.479	1.848	2.218	2.589	2.957	3.696	4.435	5.178	5.914	7.393	8.871
1 7/8	.792	1.584	1.980	2.376	2.772	3 168	3.960	4.752	5.544	6 336	7.921	9.505
2	.845	1.689	2.112	2.534	2.957	3.379	4.224	5.069	5.914	6.758	8.448	10.138
2 1/8	.898	1.795	2.244	2.693	3.141	3.591	4.488	5.386	6.283	7.181	8.977	10.772
2 1/4	.950	1.900	2.376	2.851	3.326	3.802	4.752	5.703	6.653	7.604	9.505	11.406
2 3/8	1.003	2.006	2.508	3.009	3.511	4.013	5.016	6.019	7.022	8.025	10.032	12.038
2 1/2	1.056	2.112	2.640	3.168	3.696	4 224	5.280	6.336	7.392	8.448	10.560	12.672
2 5/8	1.109	2.218	2.772	3.327	3.879	4.436	5.545	6.654	7.763	8.872	11.090	13.308
2 3/4	1.162	2.323	2.904	3.485	4.066	4.647	5.808	6.970	8.132	9.294	11.617	13.940
2 7/8	1.215	2.429	3.036	3.644	4.249	4.858	6 072	7.287	8.502	9.716	12.145	14.574
3	1.267	2.535	3.168	3 802	4.435	5.069	6.337	7.604	8.871	10.138	12.673	15.208
3 1/4	1.373	2.746	3.432	4.119	4.805	5.492	6.865	8.237	9.610	10.983	13.730	16.475
3 1/2	1.479	2.957	3.696	4.436	5.175	5.914	7.393	8.871	10.350	11.828	14.785	17.742
3 3/4	1.584	3.168	3.960	4.752	5.544	6.336	7.921	9.505	11.089	12.673	15.841	19.009
4	1.690	3.380	4.224	5.069	5.914	6.759	8.448	10.138	11.828	13.518	16.897	20.277
4 1/4	1.795	3.591	4.488	5.386	6.282	7.181	8.977	10.772	12.566	14.364	17.953	21.544
4 1/2	1.900	3.802	4.752	5.703	6.653	7.604	9.504	11.406	13.306	15.208	19.010	22.812
4 3/4	2.016	4.013	5.016	6.020	7.020	8.026	10.033	12.039	14.043	16.052	20.060	24.079
5	2.111	4.224	5.280	6.336	7.392	8.449	10.560	12 673	14.784	16.897	21.122	25.346
5 1/4	2.206	4.436	5.544	6.654	7.758	8.871	11.089	13.307	15.520	17.742	22.178	26.613
5 1/2	2.322	4.647	5.808	6.970	8.132	9.294	11.616	13.940	16.264	18.587	23.234	27.881
5 3/4	2.428	4.858	6.072	7.288	8.496	9.716	12.145	14.574	16.997	19.432	24.290	29.148
6	2.533	5.070	6.337	7.604	8.871	10.138	12.674	15.208	17.742	20.276	25.346	30.416

SCREEN BARS. (STEEL.)

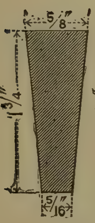


Fig. 114.

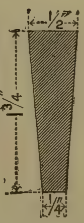


Fig. 115.

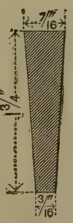


Fig. 116.

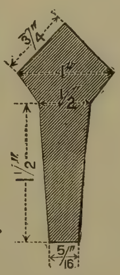


Fig. 117.

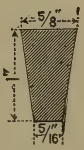


Fig. 118.

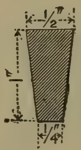


Fig. 119.

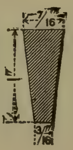


Fig. 120.

Prices quoted on application and receipt of Specifications.

WEIGHTS OF FLAT ROLLED STEEL.

PER LINEAL FOOT.

For thicknesses from 3-16 in. to 2 in.

Thickness in inches.	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	5½	6
3-16	.638	.797	.957	1.11	1.28	1.44	1.59	1.75	1.91	2.07	2.23	2.39	2.55	2.87	3.19	3.51	3.83
¼	.850	1.06	1.28	1.49	1.70	1.91	2.12	2.34	2.55	2.76	2.98	3.19	3.40	3.83	4.25	4.67	5.10
5-16	1.06	1.33	1.59	1.86	2.12	2.39	2.65	2.92	3.19	3.45	3.72	3.99	4.25	4.78	5.31	5.84	6.38
⅜	1.28	1.59	1.92	2.23	2.55	2.87	3.19	3.51	3.83	4.15	4.47	4.78	5.10	5.74	6.38	7.02	7.65
7-16	1.49	1.86	2.23	2.60	2.98	3.35	3.72	4.09	4.46	4.83	5.20	5.58	5.95	6.70	7.44	8.18	8.93
½	1.70	2.12	2.55	2.98	3.40	3.83	4.25	4.67	5.10	5.53	5.95	6.38	6.80	7.65	8.50	9.35	10.20
9-16	1.92	2.39	2.87	3.35	3.83	4.30	4.78	5.26	5.74	6.22	6.70	7 17	7.65	8.61	9.57	10.52	11.48
⅝	2.12	2.65	3.19	3.72	4.25	4.78	5.31	5.84	6.38	6.91	7.44	7.97	8.50	9.57	10.63	11.69	12.75
11-16	2.34	2.92	3.51	4.09	4.67	5.26	5.84	6.43	7.02	7.60	8.18	8.76	9.35	10.52	11.69	12.85	14.03
¾	2.55	3.19	3.83	4.47	5.10	5.75	6 38	7.02	7.65	8.29	8.93	9.57	10.20	11.48	12 75	14.03	15 30
13-16	2.76	3.45	4.14	4.84	5.53	6.21	6.90	7.60	8.29	8.98	9.67	10.36	11.05	12.43	13.81	15.19	16.58
⅞	2.98	3.72	4.47	5.20	5.95	6.69	7.44	8.18	8.93	9.67	10.41	11.16	11.90	13.39	14.87	16.36	17.85
15-16	3.19	3.99	4.78	5.58	6.38	7.18	7.97	8.77	9.57	10.36	11.16	11.95	12.75	14.34	15.94	17.53	19.13
1	3.40	4.25	5.10	5.95	6.80	7.65	8.50	9.35	10.20	11.05	11.90	12.75	13.60	15.30	17.00	18.70	20.40
1 1-16	3.61	4.52	5.42	6.32	7.22	8 13	9.03	9.93	10.84	11.74	12.65	13.55	14.45	16.26	18.06	19.87	21.68
1 ⅛	3.83	4.78	5.74	6.70	7.65	8.61	9.57	10.52	11.48	12.43	13.39	14.34	15.30	17.22	19.13	21.04	22.95
1 3-16	4.04	5.05	6.06	7.07	8.08	9.09	10.10	11.11	12.12	13.12	14.13	15.14	16.15	18.17	20.19	22.21	24.23
1 ¼	4.25	5.31	6.38	7.44	8.50	9.57	10.63	11.69	12.75	13.81	14.87	15.94	17.00	19.13	21.25	23.38	25.50
1 5-16	4.46	5.58	6.69	7.81	8.93	10.04	11.16	12.27	13.39	14.50	15.62	16.74	17.85	20.08	22.32	24.54	26.78
1 ⅜	4.67	5.84	7.02	8.18	9.35	10.52	11.69	12.85	14.03	15.20	16.36	17.53	18.70	21.04	23.38	25.71	28.05
1 7-16	4.89	6.11	7.34	8.56	9.78	11.00	12.22	13.44	14.66	15.88	17.10	18.33	19.55	21.99	24.44	26.88	29.33
1 ½	5.10	6.38	7.65	8.93	10.20	11.48	12.75	14.03	15.30	16.58	17.85	19.13	20.40	22.95	25.50	28.05	30.60
1 9-16	5.32	6.64	7.97	9.30	10.63	11.95	13.28	14.61	15.94	17.27	18.60	19.92	21.25	23.91	26.57	29.22	31.88
1 ⅝	5.52	6.90	8.29	9.67	11.05	12.43	13.81	15.19	16.58	17.96	19 34	20.72	22.10	24.87	27.63	30.39	33.15
1 11-16	5.74	7.70	8.61	10.04	11.47	12.91	14.34	15.78	17.22	18.65	20.08	21.51	22.95	25.82	28.69	31.55	34.43
1 ¾	5.95	7.44	8.93	10.42	11.90	13.40	14.88	16.37	17.85	19.34	20.83	22.32	23.80	26.78	29.75	32.73	35.70
1 13-16	6.16	7.70	9.24	10.79	12.33	13.86	15.40	16.95	18.49	20.03	21.57	23.11	24.65	27.73	30.81	33.89	36.98
1 ⅞	6.38	7.97	9.57	11.15	12.75	14.34	15.94	17.53	19.13	20.72	22.31	23.91	25.50	28.69	30.87	35.06	38.25
1 15-16	6.59	8.24	9.88	11.53	13.18	14.83	16.47	18.12	19.77	21.41	23.06	24.70	26.35	29.64	32.94	36.23	39 53
2	6.80	8.50	10.20	11.90	13.60	15.30	17.00	18.70	20.40	22.10	23.80	25 50	27.20	30.60	34.00	37.40	40.80

GALVANIZED SHEETS PRICE LIST.

Gauge, ...	10	11	12	13	14	15	16	17	18	19	20
Weight, per sq ft., in oz., . .	92½	82½	72½	62½	52½	47½	42½	38½	34½	30½	26½
List price, per lb., . . .	12	12	12	12	12	12	12	13	13	13	13
Gauge, ...		21	22	23	24	25	26	27	28	29	30
Weight, per sq. ft., in oz., . .		24½	22½	20½	18½	16½	14½	13½	12½	11½	10½
List price, per lb., ...		13	14	14	14	15	15	16	17	19	21

ADDITIONAL PRICES ON EXTRA SIZES.

EXTRA WIDTHS.

No. 19 and lighter:	
Less than 24 in. wide, per lb., . .	1 cent
Over 32 in. to 36 in., inclusive, .	1 "
Over 36 in. to 40 in., inclusive. . .	2 "
Over 40 in. to 44 in., inclusive, .	3 "
Over 44 in. to 48 in., inclusive, . .	5 "

Nos. 16, 17 and 18:	Per lb.
Over 36 in to 40 in., inclusive, .	1 cent
Over 40 in. to 44 in., inclusive, .	1½ "
Over 44 in. to 48 in., inclusive, .	2½ "

EXTRA LENGTHS.

Longer than 120 inches, per lb., ... 1 cent

One-half cent per lb. additional for Pattern Sheets, *i. e.*, for all iron of which every sheet in each bundle is required to be of exact length specified, or where iron is ordered in sheets, all of which are required to be of the same length. But iron of any length, in bundles, in which one or two sheets of the same number and width, but shorter than the full length ordered, are allowed to be put up in each bundle, will be considered ordinary length, or merchant iron, and will not be subject to any extra for length.

UNITED STATES STANDARD WEIGHT OF GAUGES
FOR IRON AND STEEL PLATES AND SHEETS.

Established by Congress March 3, 1893.
Adopted by the Association of Iron and Steel Sheet Manufacturers, July 1, 1893.

No. of Gauge.	Weight per Square Foot in Pounds Avoirdupois.	Weight per Square Foot in Ounces Avoirdupois.	Approximate Thickness in Fractions of an Inch.	Approximate Thickness in Decimal Parts of an Inch.	Price per Pound
0000000	20.00	320	1-2	.5	
000000	18.75	300	15-32	.46875	
00000	17.50	280	7-16	.4375	
0000	16.25	260	13-32	.40625	
000	15.	240	3-8	.375	
00	13.75	220	11-32	.34375	
0	12.50	200	5-16	.3125	
1	11.25	180	9-32	.28125	
2	10.625	170	17-64	.265625	
3	10.	160	1-4	.25	
4	9.375	150	15-64	.234375	
5	8.75	140	7-32	.21875	
6	8.125	130	13-64	.203125	
7	7.5	120	3-16	.1875	
8	6.875	110	11-64	.171875	
9	6.25	100	5-32	.15625	
10	5.625	90	9-64	.140625	
11	5.	80	1-8	.125	
12	4.375	70	7-64	.109375	
13	3.75	60	3-32	.09375	
14	3.125	50	5-64	.078125	
15	2.8125	45	9-128	.0703125	
16	2.5	40	1-16	.0625	
17	2.25	36	9-160	.05625	
18	2.	32	1-20	05	
19	1.75	28	7-160	.04375	
20	1.50	24	3-80	.0375	
21	1.375	22	11-320	.034375	
22	1.25	20	1-32	.03125	
23	1.125	18	9-320	.028125	
24	1.	16	1-40	.025	
25	.875	14	7-320	.021875	
26	.75	12	3-160	.01875	
27	.6875	11	11-640	.0171875	
28	.625	10	1-64	.015625	
29	.5625	9	9-640	.0140625	
30	.5	8	1-80	.0125	

EXTREME SIZES AND GAUGES WE CAN ROLL PLATES AND SHEETS.

PLATES.

THICKNESS.	WIDTH.											
	64	62	60	58	56	54	50	48	42	36	30	24
$\frac{1}{2}$	114	120	120	126	132	138	144	156	168	192	240	288
$\frac{7}{16}$	120	120	132	138	144	156	156	168	192	228	252	288
$\frac{3}{8}$	126	126	156	156	168	180	192	200	216	264	288	288
$\frac{5}{16}$	132	144	168	180	192	216	228	240	264	288	288	288
$\frac{1}{4}$	132	168	240	240	288	288	288	288	288	288	288	288
$\frac{3}{16}$	132	168	240	240	288	288	288	288	288	288	288	288
Nos. 8 and 9	120	144	168	180	192	240	252	252	288	288	288	288
Nos. 10 and 11	120	132	144	156	168	200	240	240	264	288	288	288
No 12 . . .	120	120	144	144	156	180	180	192	220	240	288	288

SHEETS.

GAUGE.	WIDTH.							GAUGE.	WIDTH.					
	50	48	44	40	36	30	24		48	44	40	36	30	24
13 and 14.	144	156	156	180	180	192	216	23 and 24.	120	120	144	144	144	144
15 to 17 . .	144	144	144	156	168	156	144	25 and 26.	96	96	96	120	144	120
18 and 19.	144	144	144	144	144	144	144	27 and 28.	. .	. .	96	120	120	120
20 to 22 . .	120	120	120	144	144	144	144							

CORRUGATED SHEETS.

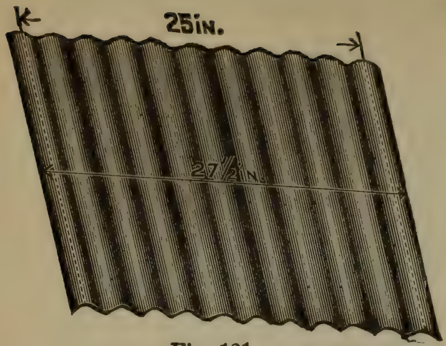


Fig. 121.
The above shows the style of our 2½ inch Corrugated Sheets. 11 Corrugations.

BLACK, GALVANIZED AND KALAMEINED, PLAIN OR PAINTED.

Width of sheet after corrugating, 27½ inches.

Covering surface, allowing one corrugation for lap, 25 inches.

Size of corrugation from crown to crown, 2½ inches.

Depth of corrugation, ⅝ inch.

Standard widths and lengths, 27½ x 96 inches.

Extreme widths and lengths, 44½ x 120 inches.

BLACK SHEETS.

U. S. Standard Gauge.	Approximate Weight per Sq. Foot Flat.	Approximate Weight per Sq. Corrugated.	Price per Pound.
No. 16	2.50	273 lb.	$........
No. 18	2.	218	....
No. 20	1.50	164	....
No. 22	1.25	137	....
No. 24	1.00	109	....
No. 26	.75	82	....
No. 27	.6875	75	....
No. 28	.625	68	....

GALVANIZED SHEETS.

No. 16	2.66	290	$........
No. 18	2.16	236	....
No. 20	1.66	181	....
No. 22	1.41	155	....
No. 24	1.16	127	....
No. 26	.91	99	....
No. 27	.85	92	....
No. 28	.78	85	....

BOILER PLATES.

Flange, per pound, $........ Fire-box Flange, per pound, $........

PRICES QUOTED UPON RECEIPT OF SPECIFICATIONS.

We furnish only the VERY BEST PLATES and guarantee to Specifications.

EXTRA FOR FLANGED HEADS.

12 to 60 inches, inclusive diameter, each, $........
61 to 70 inches, inclusive diameter, each, ...
71 to 75 inches, inclusive diameter, each, ...
76 to 80 inches, inclusive diameter, each, ...
81 to 85 inches, inclusive diameter, each, ...
86 to 90 inches, inclusive diameter, each, ...

When ordering Boiler Plates, designate Quality or Tensile Strength required.

PRICES QUOTED UPON RECEIPT OF SPECIFICATIONS.

ESTIMATED WEIGHT PER SHEET.

W. DEWEES WOOD CO.'S

PATENT PLANISHED LOCOMOTIVE JACKET IRON.

NO. 18.=1 20th inch= .05.

28 x 48=17¼ to 18 lbs.	30 x 48=18¼ to 19 lbs.
28 x 56=20¼ to 21 “	30 x 56=21¼ to 22 “
28 x 60=21½ to 21¾ “	30 x 60=23 to 23¾ “
28 x 72=26 to 27 “	30 x 72=27½ to 28¼ “
28 x 84=30½ to 31¼ “	30 x 84=32¼ to 33 “

NO. 19.=7-160ths inch= .04375.

28 x 48=15¾ to 16¼ lbs.	30 x 48=16¾ to 17½ lbs.
28 x 56=18¼ to 18¾ “	30 x 56=19½ to 20 “
28 x 60=19½ to 20 “	30 x 60=21 to 21½ “
28 x 72=23½ to 24 “	30 x 72=25¼ to 25¾ “
28 x 84=27½ to 28 “	30 x 84=29½ to 30 “

NO. 20.=3-80ths inch= .0375.

28 x 48=13 to 13½ lbs.	30 x 48=14 to 14¾ lbs.
28 x 56=14¾ to 15¼ “	30 x 56=16¼ to 16¾ “
28 x 60=16¼ to 16¾ “	30 x 60=17¼ to 17¾ “
28 x 72=18½ to 19 “	30 x 72=20¾ to 21¼ “
28 x 84=22¾ to 23½ “	30 x 84=24½ to 25 “

NO. 21.=11-320ths inch= .034375.

28 x 48=12 to 12½ lbs.	30 x 48=13 to 13½ lbs.
28 x 56=14 to 14½ “	30 x 56=15 to 15½ “
28 x 60=14¾ to 15¼ “	30 x 60=16¼ to 16¾ “
28 x 72=17¾ to 18¼ “	30 x 72=19½ to 19¾ “
28 x 84=20¾ to 21¼ “	30 x 84=21½ to 23 “

NO. 22.=1-32nd inch= .03125.

28 x 48=10½ to 10¾ lbs.	30 x 48=11¼ to 11¾ lbs.
28 x 56=12¼ to 12½ “	30 x 56=13¼ to 13¾ “
28 x 60=13¼ to 13½ “	30 x 60=14¼ to 14¾ “
28 x 72=16 to 16¼ “	30 x 72=17 to 17¾ “
28 x 84=18¾ to 19 “	30 x 84=19¾ to 20¼ “

NO. 23.=9-320ths inch= .028125.

28 x 48=10 to 10¼ lbs.	30 x 48=10¾ to 11¼ lbs
28 x 56=11¼ to 11½ “	30 x 56=12½ to 13 “
28 x 60=12½ to 12¾ “	30 x 60=13½ to 14 “
28 x 72=15¼ to 15½ “	30 x 72=16¼ to 16¾ “
28 x 84=17¼ to 17½ “	30 x 84=19 to 19½ “

NO. 24.=1-40th inch= .025.

28 x 48= 8¾ to 9 lbs.	30 x 48= 9¼ to 9¾ lbs.
28 x 56=10¼ to 10½ “	30 x 56=11¼ to 11¾ “
28 x 60=10¾ to 11¼ ‘	30 x 60=12 to 12½ “
28 x 72=13¼ to 13½ “	30 x 72=14 to 14¾ “
28 x 84=15½ to 16 “	30 x 84=16¼ to 16¾ “

JACKET STEEL PLATES.—For Painted Jackets.—Same size as Planished.

Price Planished Jacket Iron, per pound, $ Price, Steel Plates, per pound, $

Average weight per pack, 245 to 250 lbs.

WEDGE-SHAPED RAILROAD TRACK TORPEDOES.

PATENTED.

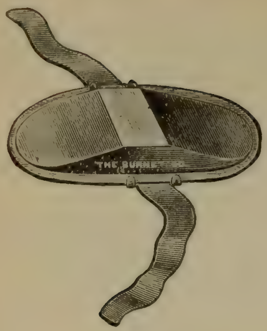


Fig. 122.
Nos. 1 2 and 3 Lead Strap.

THE WEDGE-SHAPED TORPEDO is the most practical Torpedo ever brought out. The narrow edge presented to the wheel prevents its being knocked or shoved from the rail. In the winter when the snow shoves in front of the wheel, the thin edge of the Wedge-shaped Torpedo allows the snow to pass over, which is not the case with any other shape. The construction of the Wedge-shaped Torpedo is such that it will not explode when run over by a hand car. This feature cannot be found in any other Torpedo and is a sufficient recommend in itself, for it is very important to know that the protection is not spoiled by the shifting of track men.

The Wedge-shaped Torpedo is hermetically sealed water proof, will keep for a life time in any climate, and is always to be relied upon. Some of these Torpedoes were out on the ground in all kinds of weather for more than a year, and when tried proved to be as loud and as strong as ever.

The Wedge-shaped Torpedoes are the standard on more than one hundred of the leading roads, foreign and domestic.

We can make any style, shape or size of Torpedo or Fusee your road may require as a standard. When we say a *standard* we mean an article that you can use and buy over and over again and it is always just the same and your faith in its reliability to do just what you require of it is never shaken. Thus you are forever relieved from worry and the everlasting testing to see if you are getting what you ordered.

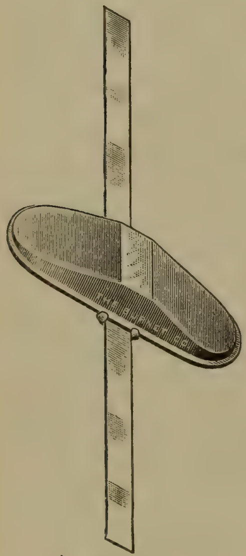


Fig. 123.
No. 4, 8 in. Tin Strap.

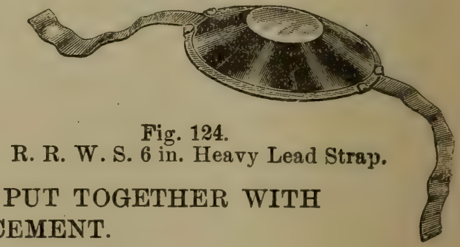


Fig. 124.
R. R. W. S. 6 in. Heavy Lead Strap.

ALL OF OUR TORPEDOES ARE PUT TOGETHER WITH WATER-PROOF CEMENT.

PRICES PER GROSS.

No. 1	Wedge-shaped	8 inch	Heavy Lead Strap	$3.25
" 2	" "	6 "	" " "	2.75
" 3	" "	6 "	Light " "	2.25
" 4	" "	8 "	Tin "	2.25
" R.R.	" "	6 "	Heavy Lead "	1.75
" XX	Oblong "	6 "	" " "	2.00
" "	" "	6 "	Light " "	1.50

RAILROAD TRACK TORPEDOES.

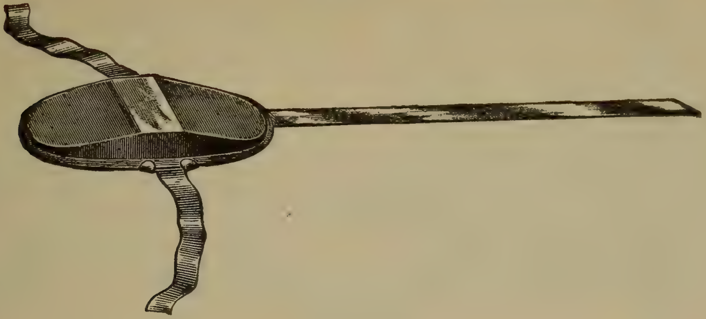


Fig. 125.

No. 6 Wedge-shape Torpedo Three-strap Fastening, Patented.

No. 6 R. R. and Wedge-shape Three-strap Fastening has an eight-inch leader which extends from the torpedo along the rail. This leader being caught by the approaching wheel makes it impossible for the torpedo to get away. It is Safe and Sure and is standard on several railroads.

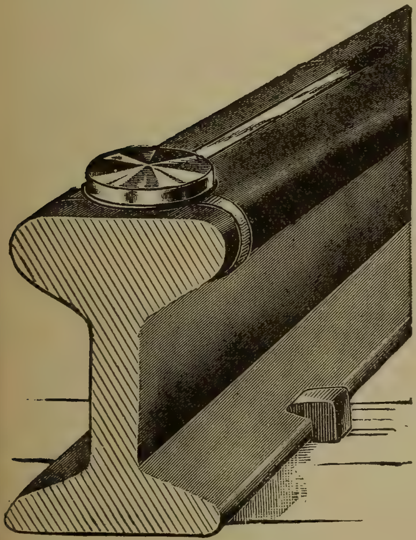


Fig. 126.

Shows No. 6 Round-shape Three-strap in Place on Rail.

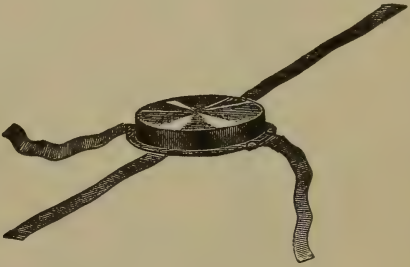


Fig. 127.

No. 7 R. R. Torpedo, Four-strap Fastening, Patented.

No. 7 Four-strap Fastening is somewhat more effective than the No. 6 Fastening, and is very heavy. Is used largely in Canada as well as many other roads.

PRICES PER GROSS.

No. 7 R. R. 4-strap	$4.50
No. 6 wedge-shape, 3-strap	3.00
No. 6 round-shape, 3-strap	2.50
Common R. R. torpedo	1.50

All Torpedoes are put together with water-proof cement.

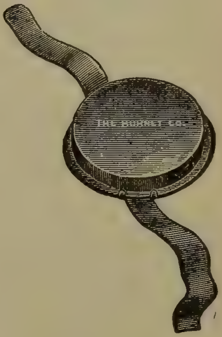


Fig. 128.

Common R. R. Torpedo.
Reliable, economical and loud in report.
Waterproof.

RAILROAD TRACK

SPRING CLAMP TORPEDOES.

PATENTED.

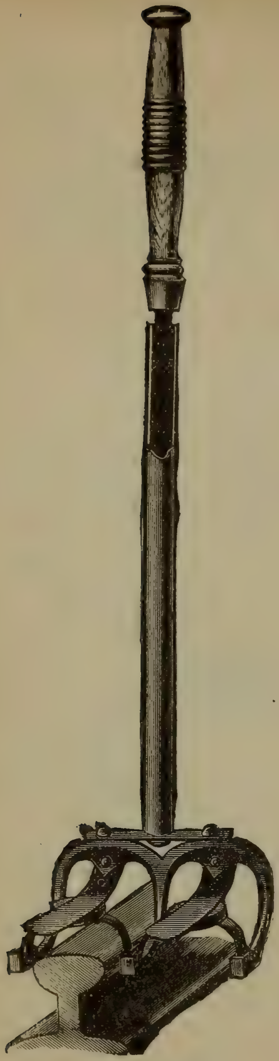


Fig. 131.
Torpedo Adjuster.

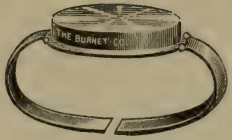

THE BURNET CO.

Fig. 129.
No. 5, Round Shape,
Spring Strap.

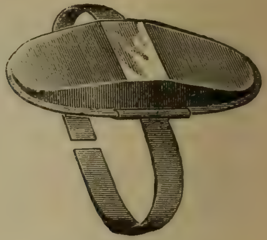


Fig. 130.
No. 5, Wedge Shape,
Spring Strap.

THE SPRING CLAMP is the most secure and safest fastening in use. These Torpedoes can be used with or without the adjusters.

By means of the adjuster they can be securely placed on the rail from the train, even when running at a high rate of speed. They are especially recommended in emergencies and in all cases when a sure fastening is demanded.

The clamp is made of best spring steel, not hoop iron.

PRICE PER GROSS.

No. 5, Round Shape Spring, - - -	$4.50
No. 5, Wedge Shape Spring, - - - -	4.50
Price Torpedo Adjuster, each, - - -	3.50

RED LIGHT SIGNAL FUSEES.

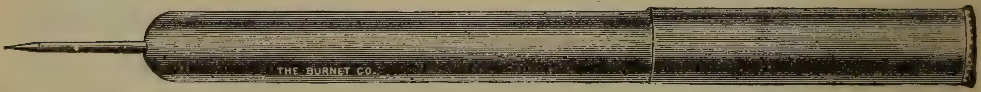

THE BURNET CO.

Fig. 132.

					Per Gross.
No. 1, 10	Minute Fusees,	$\frac{15}{16}$	diameter,	hard head, black case, iron plug,	$28.00
No. 2, 10	"	$\frac{15}{16}$	"	"crimped" head, pink case, iron plug,	22.00
No. 3, 10	"	$\frac{15}{16}$	"	" " " wood plug,	21.00
No. 4, 10	"	$\frac{13}{16}$	"	" " " wood plug,	16.00
Mam. 10	"	$1\frac{1}{8}$	"	" " red case, iron plug,	38.00
No. 2, 5	"	$\frac{15}{16}$	"	" " white case, iron plug,	16.00
No. 4, 5	"	$\frac{13}{16}$	"	" " " wood plug,	11.00
Mam. 5	"	$1\frac{1}{8}$	"	" " red case, iron plug,	28.00

Our Fusees cannot be extinguished by *rain, wind or snow*. Each torch is provided with the latest improved *water-proof lighter*. To light, remove the button and scratch head of Fusee with inner end.

Our Fusees are made strong and durable, from the best material to be had.

LOCOMOTIVE SPARK PLATE.

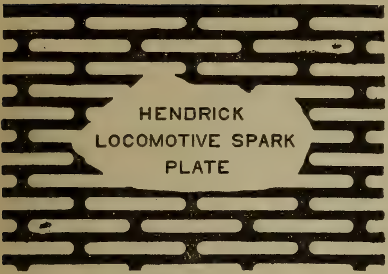


Fig. 133.

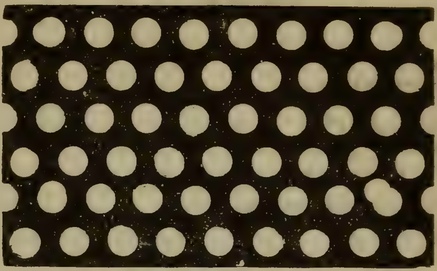


Fig. 134.

It can be furnished in sheets of any desired thickness and size.

Blank margins can be left for bolts and fastenings.

This plate does not buckle or warp under the influence of intense heat.

It is absolutely uniform in the character of the perforations, and preserves its mesh until the last.

The following information is usually necessary in order to enable us to execute orders promptly:

First.—State the exact dimensions, in inches, of the sheets required.

Second.—State thickness of plate by Birmingham Wire Gauge.

Third.—State whether or not blank margins or selvage edges are required, of what widths and on which sides; state all particulars as to size and location of bolt holes in the margin; send sketch if possible.

Fourth.—If possible, send template or drawing where sheets are irregular in size, or man-hole or exhaust nozzle openings are required, with position of bolt holes marked.

Fifth.—Send a sample of any plate which it may be desired to duplicate for perforations and thickness of plate.

Sixth.—State whether the perforations are to be round, square or oblong; give approximately the distance from center to center, if there is any preference in this direction; state whether the holes are to be staggered or in line both ways; and specify, in case of oval holes, the direction of the plate in which the holes are to run.

Seventh.—State whether or not the sheets are to be curved; to what diameter and in what direction.

PRICE QUOTED UPON RECEIPT OF SPECIFICATIONS.

CRIMPED LOCOMOTIVE SPARK WIRE CLOTH
OF STEEL OR IRON WIRE.

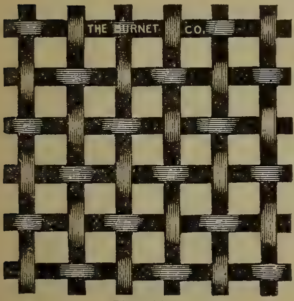

THE BURNET CO.

Fig. 135.
No. 4 Mesh, No. 14 Wire.

			Per sq. ft.
No.	2 Mesh,	9 Wire	48 cts.
"	2½ "	10 "	48 "
"	3 "	11 "	48 "
"	3 "	12 "	38 "
"	3½ "	13 "	38 "
"	4 "	14 "	38 "
"	5x2 "	14 "	35 "
"	5 "	15 "	38 "
"	6 "	16 "	38 "
"	8 "	18 "	38 "
"	10 "	19 "	48 "
"	12 "	20 "	48 "

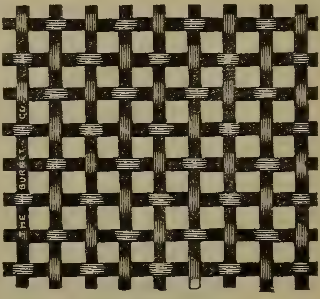

THE BURNET CO.

Fig. 136.
No. 6 Mesh, No. 16 Wire.

TWILLED SPARK WIRE CLOTH.

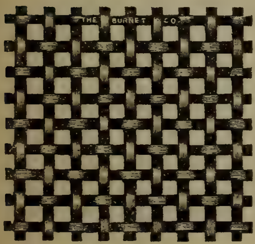

THE BURNET CO.

Fig. 137
No. 8 Mesh, No. 18 Wire.

No.	No.	Per sq. ft.
4 Mesh,	17 Wire	22 cts.
5 "	18 "	22 "
6 "	19 "	22 "
8 "	21 "	22 "
10 "	23 "	22 "
12 "	24 "	22 "

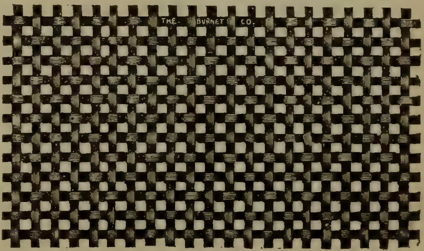

THE BURNET CO.

Fig. 138.—No. 10 Mesh, No. 19 Wire.

No length less than 100 feet shall be understood to be a roll.

Condensed Price List of all Meshes and Grades of

IRON OR STEEL WIRE CLOTH.

No length less than 100 feet shall be considered to be a Roll.

No. Meshes per in..	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	1,	¾,	¾,	¾,	¾,	¾,		Mesh
No. of Wire..........	3,	4,	5,	6,	7,	8,	9,	10,	11,	12,	13,	14,	15,	4,	5,	6,	7,	8,		Wire
Price per square foot	83,	73	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	88,	73,	60,	48,	33,		Cents
No. Meshes per in...	¾,	¾,	¾,	¾,	¾,	¾,	¾,	¾,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	⅝,	Mesh
No. of Wire..........	9,	10,	11,	12,	13,	14,	15,	16,	5,	6,	7,	8,	9,	10,	11,	12,	13,	14,	15,	Wire
Price per square foot	32,	27,	22,	17,	14,	12,	10,	8,	88,	73,	60,	48,	38,	32,	27,	22,	17,	14,	12,	Cents
No. Meshes per in...	⅝,	⅝,	2,	2,	2,	2,	2,	2,	2,	2,	2,	2,	2,	2½,	2½,	2½,	2½,			Mesh
No. of Wire..........	16,	17,	8,	9,	10,	11,	12,	13,	14,	15,	16,	17,	18,	9,	10,	11,	12,			Wire
Price per square foot	10,	8,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	60,	48,	38,	32,			Cents
No. Meshes per in...	2½,	2½,	2½,	2½,	2½,	2½,	2½,	3,	3,	3,	3,	3,	3,	3,	3,	3,	3,			Mesh
No. of Wire..........	13,	14,	15,	16,	17,	18,	19,	10,	11,	12,	13,	14,	15,	16,	17,	18,	19,			Wire
Price per square foot	27,	22,	18,	14,	12,	10,	8,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,			Cents
No. Meshes per in....	3,	3½,	3½,	3½,	3½,	3½,	3½,	3½,	3½,	3½,	3½,	3½,	4,	4,	4,	4,				Mesh
No. of Wire.........	20,	11,	12,	13,	14,	15,	16,	17,	18,	19,	20.	21,	12,	13,	14,	15,				Wire
Price per square foot	8,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	60,	48,	38,	32,				Cents
No. Meshes per in...	4,	4,	4,	4,	4,	4,	4,	4½,	4½,	4½,	4½,	4½,	4½,	4½,	4½,	4½,				Mesh
No. of wire	16,	17,	18,	19,	20,	21,	22,	13,	14,	15,	16,	17,	18,	19,	20,	21,				Wire
Price per square foot	27,	22,	17,	14,	12,	10,	8,	57,	45,	36,	29,	24,	19,	15,	13,	11,				Cents
No. Meshes per in...	4½,	5,	5,	5,	5,	5,	5,	5,	5,	5,	5,	5,	5,	6,	6,	6,	6,	6,	6,	Mesh
No. of Wire..........	22,	13,	14,	15,	16,	17,	18,	19,	20,	21,	22,	23,	24,	14,	15,	16,	17,	18,	19,	Wire
Price per square foot	9,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	7,	60,	48,	38,	32,	27,	22,	Cents
No. Meshes per in...	6.	6,	6,	6,	6,	6,	7,	7,	7,	7,	7,	7,	7,	7,	7,	7,	7,	7,	8,	Mesh
No. of Wire..........	20,	21.	22,	23,	24,	25,	15,	16,	17,	18,	19,	20,	21,	22,	23,	24,	25,	26,	16,	Wire
Price per square foot	17,	14,	12,	10,	8,	7,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	7,	60,	Cents
No. Meshes per in...	8,	8,	8,	8,	8,	8,	8,	8,	8.	8.	8,	9,	9.	9,	9,	9,	9,	9,	9,	Mesh
No. of Wire..........	17,	18,	19,	20,	21,	22,	23,	24,	25.	26,	27,	17,	18,	19,	20.	21,	22,	23,	24,	Wire
Price per square foot	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	7,	60,	48,	38,	32,	27,	22,	17,	14,	Cents
No. Meshes per in...	9,	9,	9,	9,	10,	10,	10,	10,	10,	10,	10,	10,	10,	10,	10,	10,	12,			Mesh
No. of Wire..........	25,	26,	27,	28,	18,	19,	20,	21,	22,	23,	24,	25,	26,	27,	28,	29,	19,			Wire
Price per square foot	12,	10,	8,	7,	60,	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	7,	60,			Cents
No. Meshes per in...	12,	12,	12,	12,	12,	12,	12,	12,	12,	12,	12.	14,	14,	14,	14,	14,				Mesh
No. of Wire..........	20,	21,	22,	23,	24,	25,	26,	27,	28,	29,	30,	20,	21,	22,	23,	24,				Wire
Price per square foot	48,	38,	32,	27,	22,	17,	14,	12,	10,	8,	7,	60,	48,	38,	32,	27,				Cents
No. Meshes per in...	14,	14,	14,	14,	14,	14,	14,	14,	14,	16,	16,	16,	16,	16.	16,	16,	16,	16		Mesh
No. of Wire..........	25,	26,	27,	28,	29,	30,	31,	32,	33,	22,	23,	24,	25,	26,	27,	28,	29,	30,		Wire
Price per square foot	22,	17,	15,	13,	12,	11,	10	9,	8,	60,	38,	32,	27,	22,	17,	15,	13,	12,		Cents
No. Meshes per in ..	16,	16	16,	16,	18	18,	18	18.	18.	18	18	18	18.	18.	18	18,	18,	18,		Mesh
No. of Wire..........	31,	32,	33,	34,	23	24,	25	26,	27	28,	29	30	31.	32.	33,	34,	35,	36.		Wire
Price per square foot	11,	10,	9,	8,	60,	38,	32,	27.	22,	17,	15.	13	12,	11,	10	9	8,	7,		Cents
No. Meshes per in...	20.	20,	20,	20	20,	20.	20.	20,	20.	20	20,	20.	20	22,	22	22,	22			Mesh
No. of Wire..........	24.	25.	26,	27.	28,	29,	30,	31	32.	33.	34,	35,	36	27	28,	29,	30,			Wire
Price per square foot	62,	52	43.	35,	27,	24	20,	17.	15.	13.	12,	10,	8	46,	38,	30	26,			Cents
No. Meshes per in...	22,	22,	22,	22,	22,	22,	24.	24,	24.	24,	24.	24.	24,	24,	24,	24,	24,			Mesh
No. of Wire..........	31,	32,	33,	34,	35,	36,	26,	27,	28,	29,	30,	31,	32,	33,	34	35.	36,			Wire
Price per square foot	22.	19,	17,	15.	13,	12,	65,	55,	46,	38,	30,	26	22,	19,	17,	15,	13,			Cents

12 to 48 inches kept in stock Can make up to 72 inches wide.

Table Giving Mesh, Size of Wire and Price per foot of all Grades of

BRASS AND COPPER WIRE CLOTH.

No. Meshes per in...	2,	2,	2,	2,	2,	2,	2,	3,	3,	3,	3,							Mesh
No. or Size of Wire...	10,	11,	12,	13,	14,	15,	16,	11,	12,	13,	14,							Wire
Price per square foot	250,	200,	150,	110,	80,	60,	50,	250,	200,	150,	110,							Cents
No. Meshes per in...	3,	3,	3.	4,	4,	4,	4,	4,	4,	4,	5,	5,	5,					Mesh
No or Size of Wire...	15,	16,	17,	12,	13,	14,	15,	16.	17,	18,	13,	14,	15,					Wire
Price per square foot	80,	60,	50,	250,	200,	150,	110,	80,	60,	50,	250,	200,	150,					Cents
No. Meshes per in...	5,	5,	5,	5,	5,	6,	6,	6,	6,	6,	6,	6,	6,	7,	7,			Mesh
No. or Size of Wire...	16,	17,	18,	19,	20,	14,	15,	16,	17,	18,	19,	20,	21,	18,	19,			Wire
Price per square foot	110,	80,	60,	50,	45,	250,	200,	150,	110,	80,	60,	50,	45,	115,	85,			Cents
No. Meshes per in...	7,	7,	7,	8,	8.	8,	8,	8,	8,	8,	8,	8,	10,	10,	10,			Mesh
No. or Size of Wire...	20,	21,	22,	16,	17,	18,	19,	20,	21,	22,	23,	24,	18,	19,	20,			Wire
Price per square foot	65,	55,	45,	250,	200,	150,	110,	80,	60,	50,	45,	40,	200,	150,	110,			Cents
No. Meshes per in...	10.	10,	10,	10,	10,	12,	12,	12,	12.	12,	12.	12.	12,	14,	14,	14,		Mesh
No. or Size of Wire...	21,	22,	23,	24,	25,	19,	20,	21,	22.	23,	24.	25,	26,	2,	23,	24,		Wire
Price per square foot	80,	60,	50,	45,	40,	200,	150,	110,	80,	60,	50,	45,	40,	110,	80,	60,		Cents
No. Meshes per in...	14,	14,	14,	16,	16,	16,	16,	16,	16,	16,	18,	18,	18.	18,	18,	18,	18,	Mesh
No. or Size of Wire...	25,	26,	27,	24,	25,	26,	27,	28,	29,	30,	25,	26.	27,	28,	29,	30,	31,	Wire
Price per square foot	50,	45,	40,	80,	60,	50,	45,	40,	35,	30,	80,	60,	50,	45,	40,	35,	30,	Cents
No. Meshes per in...	20,	20,	20,	20,	20,	20.	20,	20,	20,	22,	22,	22,	22,	22,	22,	22,	24.	Mesh
No. or Size of Wire...	26,	27,	28,	29	30,	31,	32,	33,	34,	27,	28,	29,	30,	31,	32,	33,	28,	Wire
Price per square foot	80,	60,	50,	45,	40,	35,	30,	27.	25,	80,	60,	50,	45,	40,	35,	30,	80,	Cents
No. Meshes per in...	24,	24,	24,	24,	24.	24,	24,	30,	30,	30,	30,	30,	30,	36,	40,	40,		Mesh
No. or Size of Wire ..	29,	30,	31,	32,	33,	34,	35,	30,	31,	32,	33,	34,	35,	32,	32,	33,		Wire
Price per square foot	60,	50,	45,	40.	35,	30,	27,	65,	52,	47,	42,	37,	33,	55,	70,	55,		Cents
No. Meshes per in...	40,	50,	50,	50,	60,	60,	60,	70,	80,	90,	100........................							Mesh
No. or Size of Wire..	34.	34,	35,	36,	35,	36,	37,	37,	38,	39,	40........................							Wire
Price per square foot	48,	75,	58,	50,	78,	60,	52,	70,	90,	110,	130........................							Cents

LOCOMOTIVE AND ELLIPTIC SPRINGS.

DIMENSIONS OF .... SPRINGS.

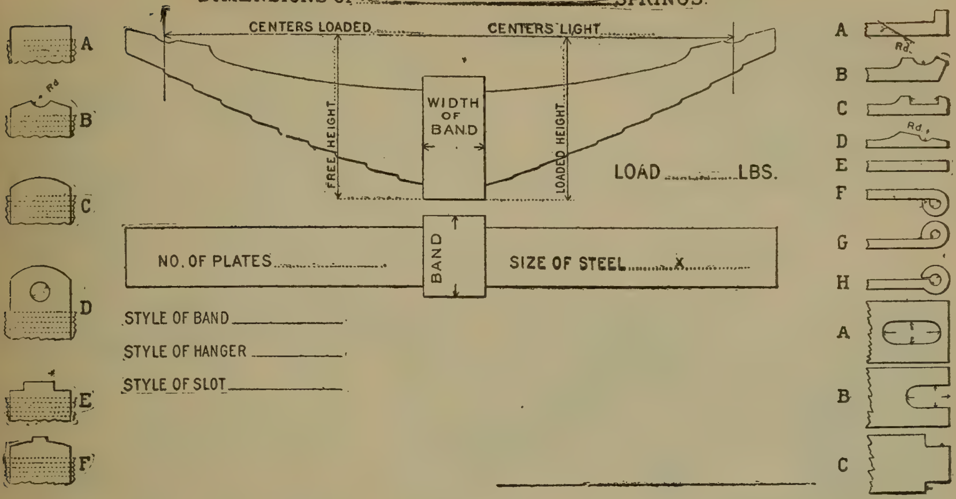
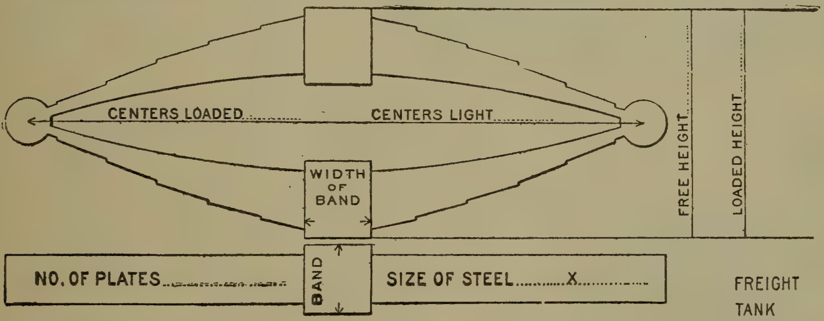


Fig. 139.

DIMENSIONS OF .... SPRINGS.


CENTERS LOADED
CENTERS LIGHT
FREE HEIGHT
LOADED HEIGHT
WIDTH OF BAND
NO. OF PLATES ....
BAND
SIZE OF STEEL .... X ....

WEIGHT OF CAR BODY .... LBS.

LOAD .... LBS.

DISTANCE BETWEEN BANDS, LOADED ....

AUXILIARY PLATES ....

NO. OF SPRINGS PER BUNDLE ....

FREIGHT
TANK
BAGGAGE
PASSENGER
FOUR WHEEL TRUCK
SIX WHEEL TRUCK.

Fig. 140.

The above plates used by permission of National Car Spring Co.

DRAFT SPRINGS.

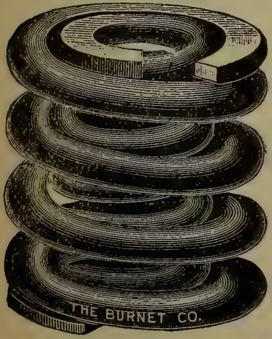

THE BURNET CO.

Fig. 141.

BOLSTER SPRINGS.

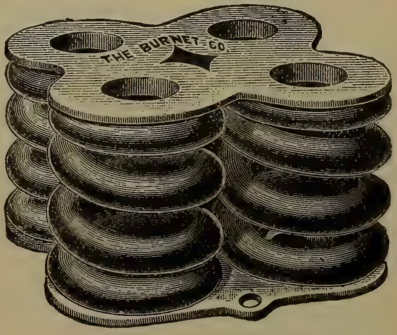

THE BURNET CO.

Fig. 142.

PRICES QUOTED ON APPLICATION.

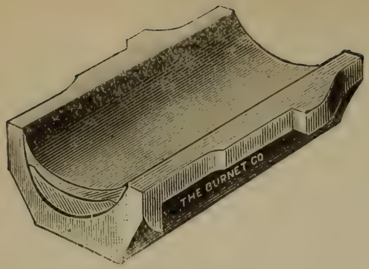


Fig. 143.

JOURNAL BEARINGS

FOR

PASSENGER AND FREIGHT CARS,
PONY TRUCKS AND TENDERS.

LOCOMOTIVE DRIVING AND SIDE ROD BRASSES.

Brass Castings Made to Order of any Description.
PRICES ON APPLICATION.
We Buy Scrap Brass and Copper.

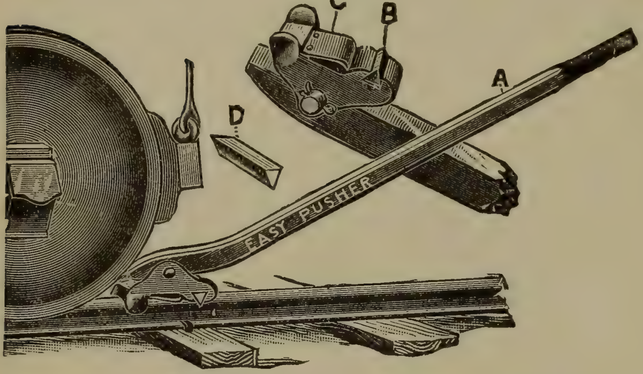


Fig. 144.

THE "EASY" CAR PUSHER.

Length, 5½ feet.

Weight, 20 lbs.

PRICE, $5.00.

Extra Steels, 20 cts. Each.

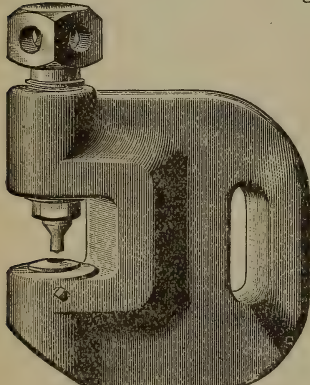


Fig. 145.

STEEL SCREW PUNCHES.

No.	Thickness of Iron.	Size of Rivet.	Gap.	Weight. Lbs.	Price.
00	$\frac{3}{16}$	$\frac{3}{8}$	1½	8½	$20
0	¼	½	1½	17	24
1	⅜	½	1½	27	30
2	½	¾	2	40	40
3	¾	¾	2½	60	60
3½	¾	¾	4	90	75
4	1		4¼	145	90

Prices for Extra Punches and Dies for Screw Punches Per Pair.

No.	00	0	1	2	3	3½	4
Price,	$3.50	3.50	4.00	4.00	5.00	5.00	5.00

When ordering Punches and Dies it is only necessary to give the size of rivet for which they are to be used, as they are made to punch holes about 1-16 over size marked on them, which allows proper clearance to admit rivet.

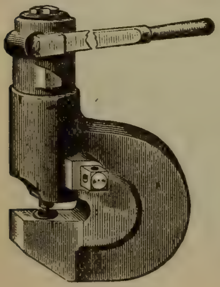


Fig. 146.

HYDRAULIC HEAD PUNCH

For Boiler Makers, Bridge Builders and Sheet Iron Workers.

Adapted for the same use as Screw Punches, but being much easier and quicker worked, thus requiring but one man to operate it.

No.	Thickness of Iron.	Size of Rivet.	Gap.	Weight. Lbs.	Price.
2	½	¾	2	85	$ 85
3	¾	¾	2¼	130	110
4	⅞	⅞	2½	160	140

Extra Punches and Dies Per Pair.

No.	2	3	4
Price,	$2.00	2.50	3.00

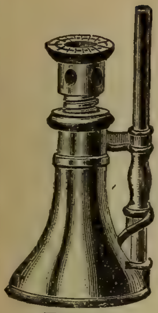


Fig. 147

BELL BOTTOM JACK SCREWS.

These Jack Screws have cast iron barrels, with steel screws and steel collars.

For Workmanship and Durability they cannot be excelled.

All Screws are warranted to carry the weight specified.

Diam. of Screw.	Height of Stand.	Height over All.	Lifting Capacity.	Price.
1¼ inch	4 in.	7 in.	10 tons.	$3.00
	6 in.	9 in.	10 tons.	3.10
	8 in.	11 in.	10 tons.	3.40
	10 in.	13 in.	10 tons.	3.80
	12 in.	15 in.	10 tons.	4.20
	14 in.	17 in.	10 tons.	4.60
1½ inch	4 in.	7½ in.	12 tons.	3.50
	6 in.	9½ in.	12 tons.	3.75
	8 in.	11½ in.	12 tons.	4.25
	10 in.	13 in.	12 tons.	4.75
	12 in.	15 in.	12 tons.	5.25
	14 in.	17 in.	12 tons.	6.00
	16 in.	19 in.	12 tons.	6.75
1¾ inch	5 in.	8 in.	16 tons.	4.25
	6 in.	9 in.	16 tons.	4.50
	8 in.	11 in.	16 tons.	5.00
	10 in.	13 in.	16 tons.	5.75
	12 in.	15 in.	16 tons.	6.25
	14 in.	17 in.	16 tons.	6.75
	16 in.	19 in.	16 tons.	7.50
	18 in.	21 in.	16 tons.	8.50
2 inch	5 in.	9 in.	20 tons.	5.00
	6 in.	10 in.	20 tons.	5.25
	8 in.	12 in.	20 tons.	6.00
	10 in.	14 in.	20 tons.	6.75
	12 in.	16 in.	20 tons.	7.50
	14 in.	18 in.	20 tons.	8.25
	16 in.	20 in.	20 tons.	9.25
	18 in.	22 in.	20 tons.	10.25
	20 in.	24 in.	20 tons.	11.50
	22 in.	26 in.	20 tons.	12.50
	24 in.	28 in.	20 tons.	13.50

Diam. of Screw	Height of Stand.	Height over All.	Lifting Capacity.	Price.
2¼ inch	6 in.	10 in.	24 tons.	$ 6.75
	8 in.	12 in.	24 tons.	7.50
	10 in.	14 in.	24 tons.	8.25
	12 in.	16 in.	24 tons.	9.00
	14 in.	18 in.	24 tons.	10.00
	16 in.	20 in.	24 tons.	11.00
	18 in.	22 in.	24 tons.	12.00
	20 in.	24 in.	24 tons.	13.25
	22 in.	26 in.	24 tons.	14.50
	24 in.	28 in.	24 tons.	15.75
2½ inch	6 in.	10½ in.	28 tons.	7.75
	8 in.	12½ in.	28 tons.	8.75
	10 in.	14½ in.	28 tons.	9.75
	12 in.	16½ in.	28 tons.	10.75
	14 in.	18½ in.	28 tons.	12.00
	16 in.	20½ in.	28 tons.	13.25
	18 in.	22½ in.	28 tons.	14.50
	20 in.	24½ in.	28 tons.	15.75
	22 in.	26½ in.	28 tons.	17.00
	24 in.	28½ in.	28 tons.	18.25
	28 in.	32½ in.	28 tons.	22.00
	32 in.	36½ in.	28 tons.	26.00
3 inch	16 in.	21 in.	35 tons.	20.75
	18 in.	23 in.	35 tons.	22.00
	20 in.	25 in.	35 tons.	23.25
	24 in.	29 in.	35 tons.	25.75

Levers or Handle Bars Extra.

CAR BOX JACK SCREWS.

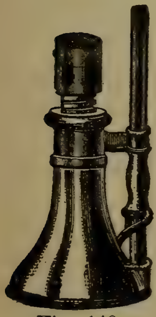


Fig. 148.

Diam. of Screw.	Height of Stand.	Price.
1½ inch	6 in.	$4.25
	8 in.	4.75
	10 in.	5.25
	12 in.	5.75
1¾ inch	6 in.	5.00
	8 in.	5.50
	10 in.	6.25
	12 in.	6.75
2 inch	6 in.	5.75
	8 in.	6.50
	10 in.	7.25
	12 in.	8.00
	14 in.	8.75

Diam. of Screw.	Height of Stand.	Price.
2¼ inch	8 in.	$ 8.00
	10 in.	8.75
	12 in.	9.50
	14 in.	10.50
	16 in.	11.50
2½ inch	8 in.	9.25
	10 in.	10.25
	12 in.	11.25
	14 in.	12.50
	16 in.	13.75

These Jack Screws are made with swivel caps of the same diameter as the head.

VERONA TRACK JACK.

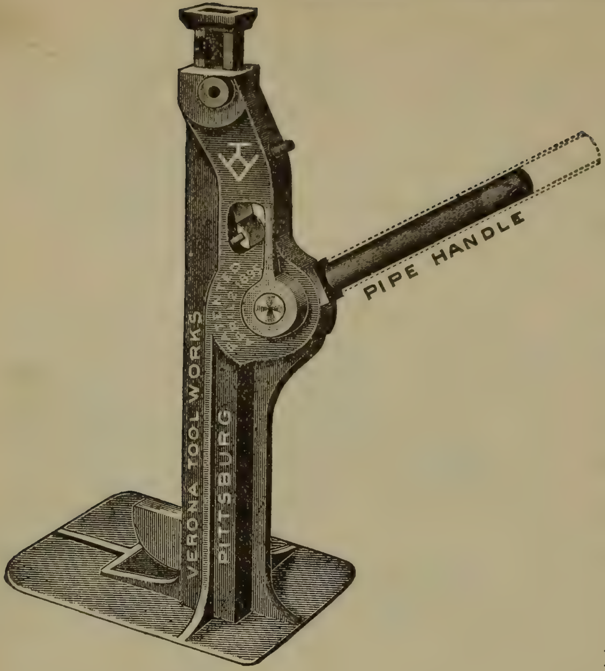


Fig. 149.

Weight, 51 pounds; height of bar when down, 21 inches; lift of rack bar, 14 inches; capacity, 10 tons; size of base, 7 x 12 inches, as recommended by Roadmasters' Association of America. Load can be dropped instantly and with certainty by the lower pawl. No small "trip." Necessary load can be let down one tooth at a time when required.

Price, - - - - - $23.00

MAXON, NO. 20, DROP TRACK JACK.

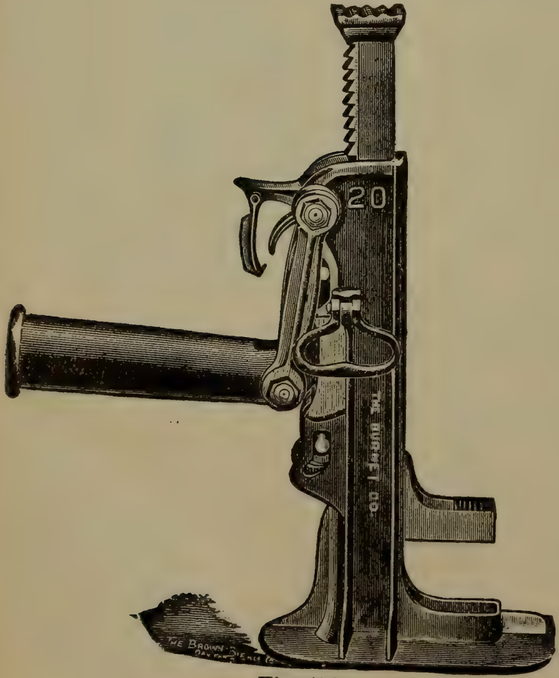


Fig. 150.

This Jack was designed by some of the best and most practical roadmasters of this country. They have been in use and thoroughly tested in every way with entire satisfaction.

With it perfect control is always had of the track without any danger of slipping. The bar has 7-16 inch teeth; can be raised or lowered one or two notches at a time.

A perfect *Sure Drop Track Jack* that can be relied upon in any emergency. Size of the base is 7 x 12 inches.

The ratchet bar is reinforced by a $\frac{3}{4}$ inch wrought iron bolt, which increases its strength.

Cold-rolled steel pins are used.

Capacity, 10 tons. Rise, 11 1-2 inches. Weight, 50 lbs.

Price, - - - - - - $20.00

MAXON JACKS.

No. 3, CAR AND GENERAL PURPOSE JACK.

The height of this Jack is 19 inches, the rise of the bar being 11 inches. Weight of the Jack 60 lbs., with a capacity of 8 tons, with foot lift. It is used for track work also. The Ratchet bar is reinforced the full length by a ¾-inch wrought iron bolt, to which the head is screwed. Each Jack has two small handles, one on each side.

HARDENED STEEL BUSHINGS AND PINS USED.

Price, - - - - - $16.00

No. 14, HEAVY JACK.

It is used for heavy track and yard work. The height of this Jack is 24 inches, the rise of the bar being 15 inches. It is *strong and durable.* Weight of the Jack 70 lbs., with a capacity of 10 tons. Small handles on each side.

Price, - - - - - $25 00

No. 15 JACK.

The height of this Jack is 28 inches, the rise of the bar being 15 inches. Weight of Jack, 115 lbs.; capacity, 15 tons. It is a car and heavy yard Jack. One small handle on each side. *Will not slip under load.*

Price, - - - - - $35.00

No. 16 JACK.

STRONGEST AND MOST POWERFUL JACK IN USE.

HARDENED STEEL BUSHINGS AND PINS USED.

The height of this Jack is 34 inches, the rise of the bar being 21 inches. Weight of Jack, 125 lbs.; capacity, 15 tons. It is a heavy wrecking and coach Jack.

Price, - - - - - $35.00

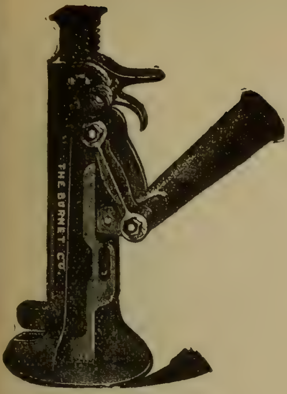

THE BURNET CO.

Fig. 151.

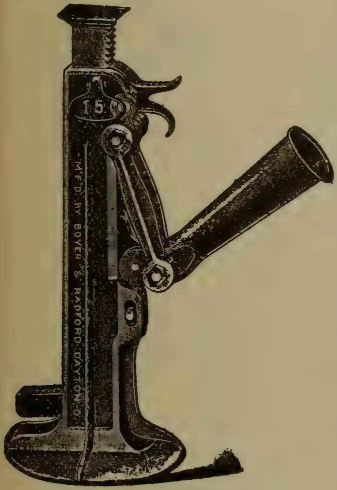

15
MFD. BY BOYER & RADFORD DAYTON O

Fig. 152.

No. 17, JOURNAL OR AXLE BOX JACK.

This is the only successful and practical Ratchet Jack ever made for car inspecting and journal box repairing. Its height is adapted to standard journal boxes. It is very strong and powerful, quick and ready in movement, and excels all other jacks for like work. Carried on engine or caboose, it is a Jack that is very useful. Height of Jack 11½ inches, the rise of the bar being 5 inches. Weight of Jack, 48 lbs.; capacity, 6 tons. It is used for Truck or Axle Box Jack.

Price, - - - - $16.00

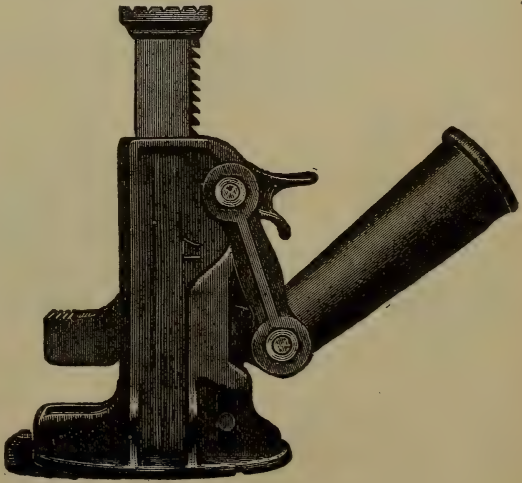


Fig. 153.

"SURE DROP" TRACK JACK.

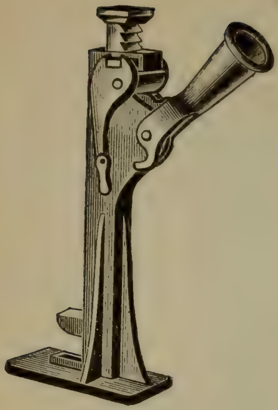


Fig. 154.
15 Ton Jack.

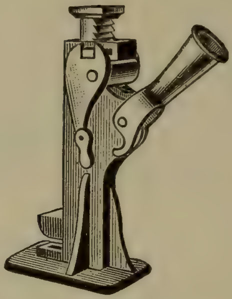


Fig. 155.
15 Ton Jack.

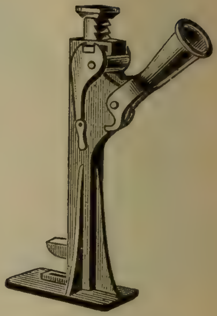
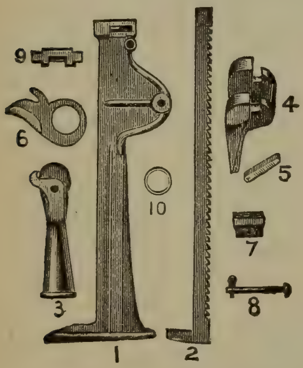


Fig. 156.
10 Ton Jack.

Style.	Capacity.	Rise of Base.	Height Down.	Size Base.	Weight.	Price.
Fig. 156	10 Ton	15 in.	24 in.	1¾ x 1⅜	60 lbs.	$14.25
Fig. 154	15 Ton	20 in.	30 in.	2 x 1¾	95 lbs.	28.00
Fig. 155	15 Ton	10 in.	22 in.	1¾ x 1¾	75 lbs.	20.00

PRICE LIST OF TRACK JACK PARTS.



	Part.	Fig. 156 Track Jack.	Fig. 154 Track Jack.	Fig. 155 Track Jack.
No. 1.	Frame,	$4.00	$5.00	$4.00
" 2.	Steel Bar,	5.00	7.00	5.00
" 3.	Lever Socket,	2.00	3.00	3.00
" 4.	Jaw,	1.00	1.50	1.50
" 5.	Link,	.25	.25	.25
" 6.	Lifting Pawl,	1.00	2.00	2.00
" 7.	Top of Bar,	.50	.50	.50
" 8.	Bolt,	.25	.25	.25
" 9.	Holding Pawl,	.75	1.00	1.00
" 10.	Steel Ring,	.50	.50	.50

CAR INSPECTOR'S OR JOURNAL JACK.

THE MOST POWERFUL SHORT LIFT JACKS ON THE MARKET.

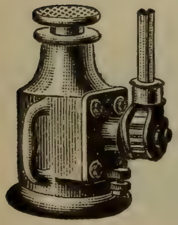


Fig. 157.
15 Ton Jack.

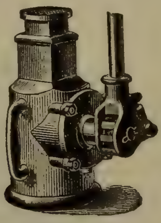


Fig. 158.
10 Ton Jack.

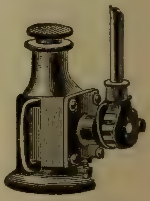


Fig. 159.
8 Ton Jack.

Style.	Height.	Rise.	Weight.	Capacity.	List Price.
Fig. 157	11 in.	5 in.	45 lbs.	15 Tons	$22.00
Fig. 158	11 in.	5 in.	40 lbs.	10 Tons	20.00
Fig. 159	10 in.	5 in.	21 lbs.	8 Tons	18.00

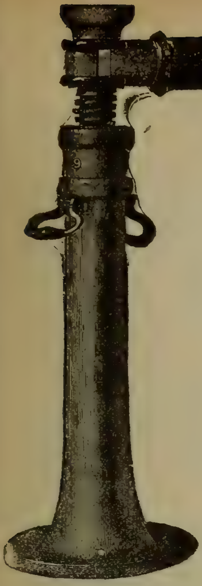


Fig. 160.

MAXON JACKS.

No. 9, RATCHET SCREW JACK.

Steel Screws and Gun Metal Nuts.

STRONGEST AND MOST POWERFUL JACKS IN USE.

Hardened Steel Bushings and Pins used on each Jack.

Height, 31 inches; rise, 21 inches; weight, 100 pounds; capacity, 30 tons; Gun Metal Nut, 4 inches deep; Steel Screw, 2½ inches in diameter; closed Ratchet. Head and Stand made of the best Air Furnace Malleable Iron.

Price, - - - - - $60.00

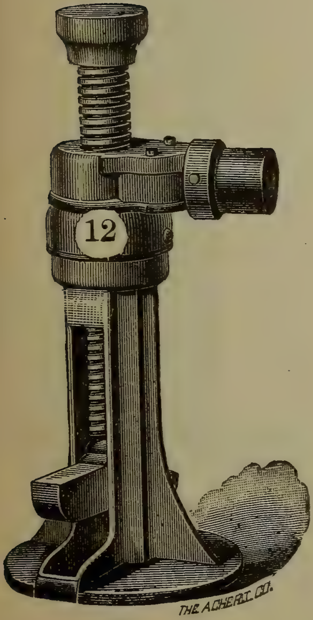


Fig. 161.

No. 12, FOOT LIFT SCREW JACK.

Height of Jack, 31 inches; run of Screw, 18 inches; diameter of Screw, 2½ inches; weight, 115 pounds; capacity, 30 tons; foot lift, 10 tons; Gun Metal Nut; Steel Screw and a Malleable Iron Frame and Ratchet.

Price, - - - - - $75.00

No. 13, FOOT LIFT SCREW JACK.

Height, 26 inches; run of Screw, 13 inches; diameter of Screw, 2½ inches; weight, 100 pounds; capacity, 30 tons; foot lift, 10 tons; Gun Metal Nut, Steel Screw and Mallable Iron Frame and Ratchet.

Price, ... $75.00

MAXON JACKS.

No. 19 POWER JACK.

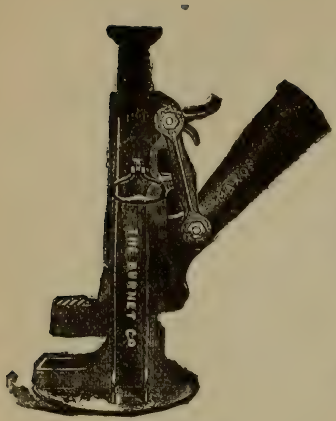


Fig. 162.

This Jack is designed for heavy work, such as handling coaches, loaded cars, shop work, etc., and is provided with safety points. The lifting pawl has ten strong teeth. The up and down movement of the lever of this Jack is less than of any other Jack made, starting to lift the load with the lever at an angle of 35 degrees.

Strongest and most powerful Jack made. The Ratchet Bar is reinforced the full length by a 1-inch wrought iron bolt, to which the head is screwed. This gives the bar more rigidity and strength.

HARDENED STEEL BUSHINGS AND PINS USED.

Height, 28 inches; rise, 15 inches; weight, 120 lbs.; capacity 20 tons.

Price, - - - - - - $40.00

We offer an unexcelled line of Screw Jacks. They are in use on many of the leading railroads and in many car shops in our country, and everywhere give entire satisfaction.

No. 6, BUILDING AND BRIDGE JACK.

Height, 16 inches; rise, 9 inches; weight, 28 lbs.; capacity, 20 tons. Steel Screw 2 inch diameter. Gun Metal Nut.

Price, - - - - - - $22.00

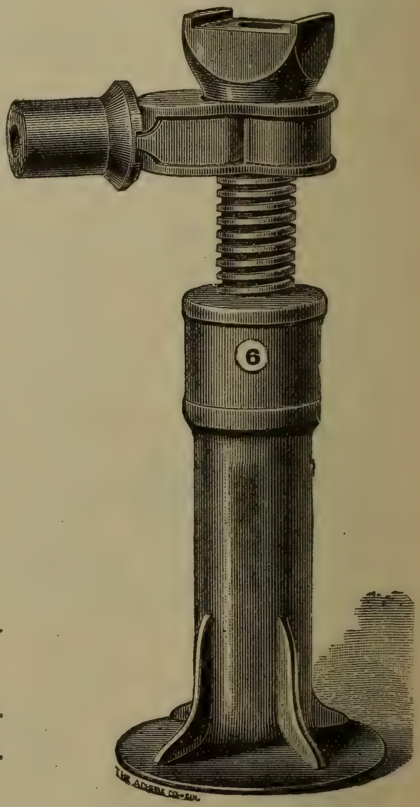


Fig. 163.

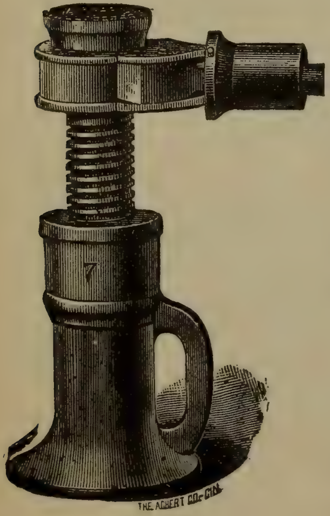


Fig. 164.

No. 7, LOCOMOTIVE JACK.

Height, 12 inches.

Rise, 6 inches.

Weight, 27 pounds.

Capacity, 20 tons.

Iron Nut instead of Gun Metal Nut. Steel Screw, 2 inches in diameter. Ratchet Box, Head and Stand of Malleable Iron.

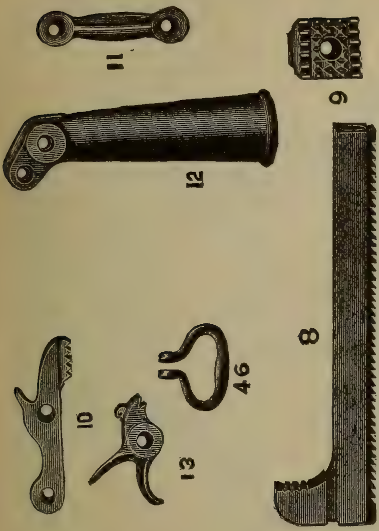
Price, - - - - $17.00

No. 8, same as No. 7, except that it has Gun Metal Nut.

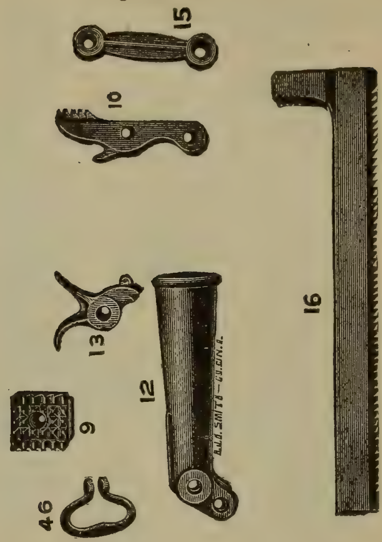
Price, - - - - $20.00

MAXON JACK REPAIRS.

Repairs for No. 3.

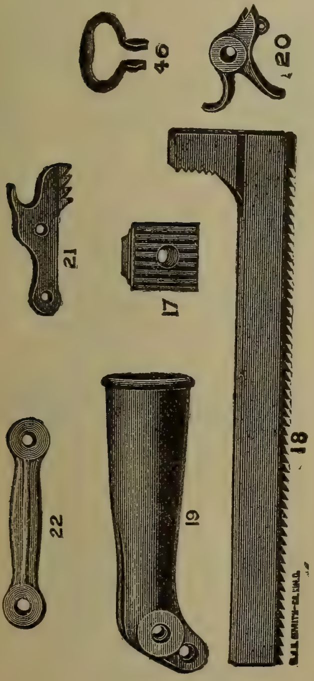


Repairs for No. 14.

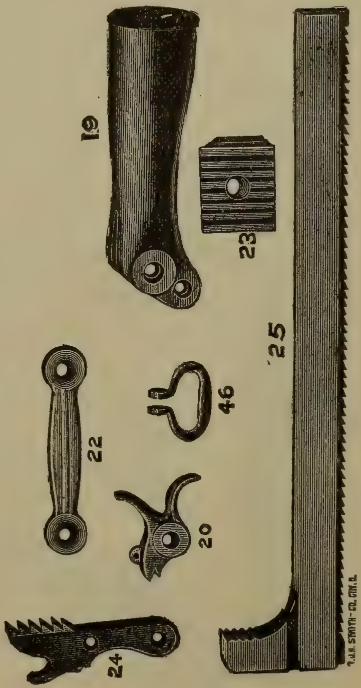


In ordering parts of Jacks **from this** page give page number, also figure number.

Repairs for No. 15.

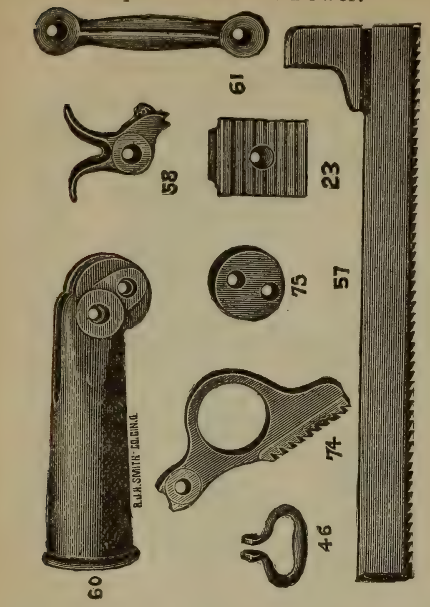


Repairs for No 16.

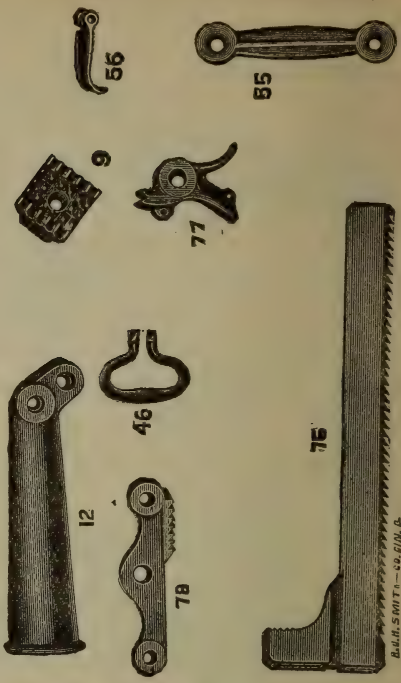


MAXON JACK REPAIRS.

Repairs for No. 19 Power.

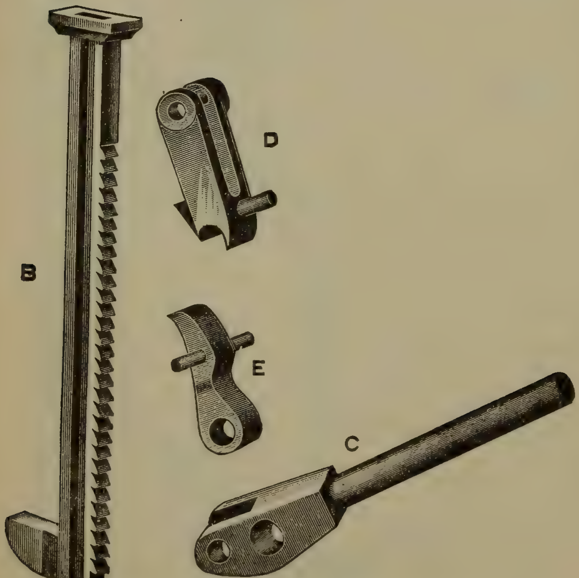


Repairs for No. 20 Track Jack.



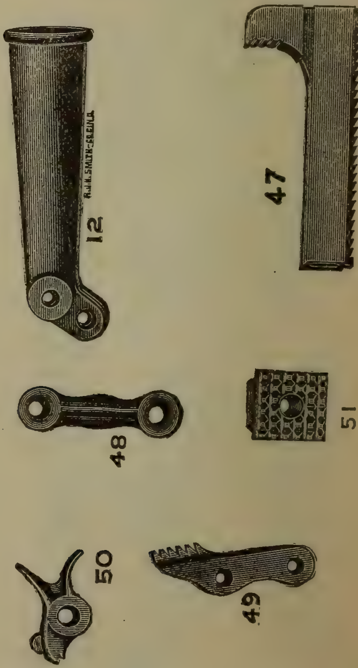
DETAILS OF VERONA TRACK JACK.

B. Rack bar. C. Lever. D. Top Catch.
E. Pawl.



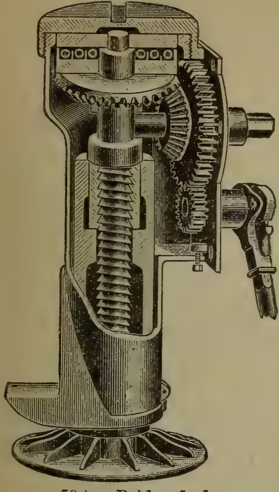
MAXON JACK.

Repairs for No. 17 Jack.

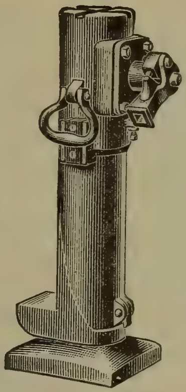


In ordering parts of Jacks from this page give page number, also figure or letter number.

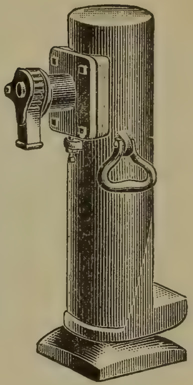
BALL-BEARING COMPOUND BRIDGE JACKS. 15 TO 70 TONS.



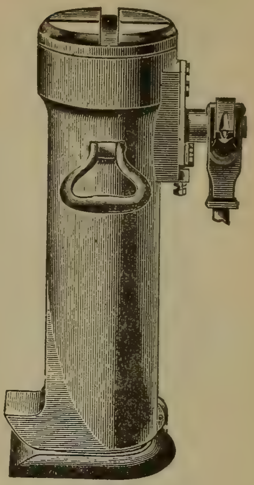
70-ton Bridge Jack.
Fig. 165.



25-ton Bridge Jack.
Fig. 166.



15-ton Bridge Jack.
Fig. 167.



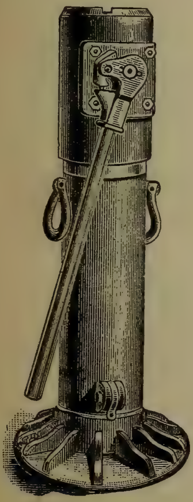
40-ton Bridge Jack.
Fig 168.

CAPACITY.	HEIGHT.	RISE.	DIAMETER OF BASE.	DIAMETER OF HEAD.	WEIGHT.	LIST PRICE.
15 tons.	22 in.	12 in.	8x9 in.	5½ in.	90 lbs.	$ 60.00
20 "	22 "	12 "	8x9 "	5½ "	90 "	80.00
25 "	26 "	13 "	8x9 "	5½ "	110 "	96 00
25 "	22 "	10 "	8x9 "	5½ "	100 "	90.00
35 "	22 "	10 "	10½x8 "	6½ "	125 "	130.00
40 "	21½"	10 "	8x9 "	8 "	180 "	140.00
50 "	27 "	13 "	14 "	10½ "	200 "	150.00
60 "	26 "	12 "	14 "	10½ "	300 "	175.00
70 "	26 "	12 "	14 "	10½ "	300 "	200.00

These Jacks are designed for extra heavy bridge and other work, and are made with great care from the best material, and the capacity is fully guaranteed.

When raising light load (30 to 40 tons) on compound Geared Jacks, use ratchet on *upper* shaft, which gives *more speed.*

When full power of Jack is required, use ratchet on *lower* shaft.



Style C. 31-inch.
Fig. 169.

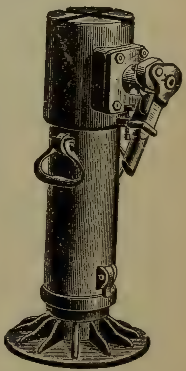
35-TON BALL-BEARING JACK.

STYLE C.

STYLE.	HEIGHT CLOSED.	RISE.	DIAM. OF BASE.	WEIGHT.	CAPACITY.	LIST PRICE.
C	26 in.	14 in.	12 in.	165 lbs.	35 tons	$125.00
C	31 "	18 "	12 "	190 "	35 "	135.00

Hook extra, $8.00.

This Jack is designed for heavy locomotive and wrecking car service, pulling well pipes and all other heavy work



Style C. 26-inch.
Fig. 170.

BALL-BEARING JACK, STYLE N. A., 25 TONS.

WITH HOOK FOR GROUND LIFT.

This Jack with square base at same price.

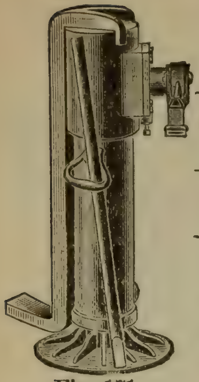
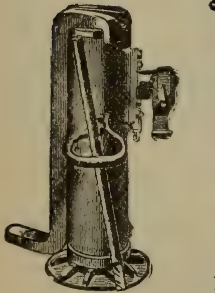


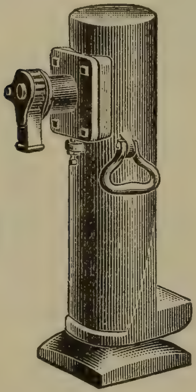
Fig. 171.

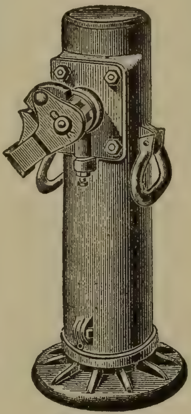
Style.	Height.	Rise.	Diameter of Base.	Weight.	Capacity.	List Price.	Hook Extra.
N. A.	26 in	13 in.	10 in.	105 lbs.	25 tons.	$90 00	$6.00
N. A.	20 "	9 "	10 "	95 "	25 "	80 00	6.00

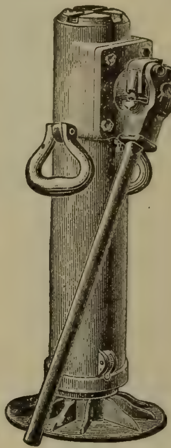
The construction of the Norton Jack is such that it can be carried on locomotives for months at a time, exposed to the coal-dirt and action of the weather, and be found ready for service when needed.

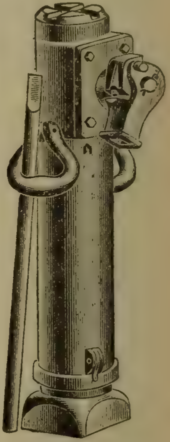
BALL-BEARING JACKS, 15 AND 20 TON.


Style R.
15 and 20 tons.
Fig. 172.


Style B.
15 and 20 tons.
Square Base.
Foot-lift.
Fig. 173.


Style B.
15 and 20 tons.
Plain Round Base.
Fig. 174.


Style A.
15 and 20 tons.
Round Base.
Fig. 175.


Style M.
15 and 20 tons.
Square Base.
Fig. 176.

In ordering, specify Fig. Number, Capacity and Style Base required.
All Jacks furnished with Square or Round Base at same price.

Style.	Capacity.	Height.	Rise.	Diam. of Base.	Weight.	List Price.	Hook Extra.
A	15 ton.	26 in.	13 in.	10 in.	90 lbs.	$70.00	$6 00
A	20 "	26 "	13 "	10 "	90 "	80.00	6.00
M	15 "	26 "	13 "	6x6 "	90 "	70.00	6 00
M	20 "	26 "	13 "	6x6 "	90 "	80.00	6.00
B	15 "	22 "	12 "	10 "	80 "	60.00	6.00
B	20 "	22 "	12 "	10 "	80 "	70.00	6 00
B	15 "	22 "	12 "	10 "	85 "	65.00	Foot cast on.
B	20 "	22 "	12 "	10 "	85 "	75.00	" " "
R	15 "	20 "	9 "	12 "	80 "	60.00	$5.00
R	20 "	20 "	9 "	12 "	80 "	70.00	5.00

10-TON CONE-BEARING RATCHET JACKS.

STYLE N. J.

These Jacks are made with square or round base at same price.

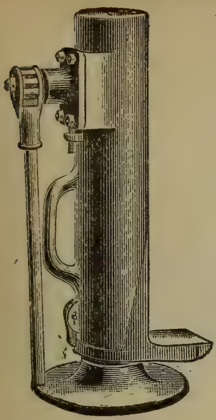


Fig. 177.

Style N. J.
10 ton. 20 in.

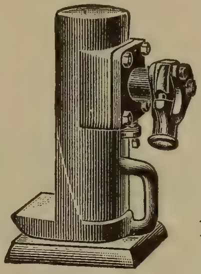


Fig. 178.

Style N. J.
10 ton. 14 in.

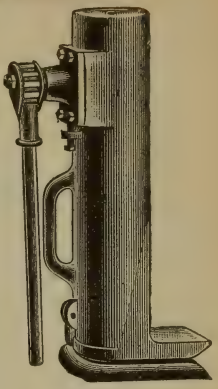


Fig. 179.

Style N. J. Bridge Base.
10 ton. 20 in.

Style.	Height Over All.	Height of Foot from Ground.	Rise.	Size of Base.	Weight.	Capacity.	List Price.
N. J.	20 in.	3 in.	10 in.	8 in.	60 lbs.	10 tons	$24.00
N. J. Sq. Front Base	20 "	3 "	10 "	6 x 8 in.	60 "	10 "	24.00
N. J.	14 "	3 "	7 "	6 x 10 in.	40 "	10 "	22.00

This Jack is designed for Electric and Street Railway service. It is equally well adapted for Carpenters and Builders, Boiler Makers, Truckmen, or for any other work that can be done with Jacks.

These Jacks are made of malleable iron and steel, and have hardened tool steel bearing for end of screw.

15-TON

CARPENTERS' AND BUILDERS' CONE-BEARING JACKS.

STYLE G.

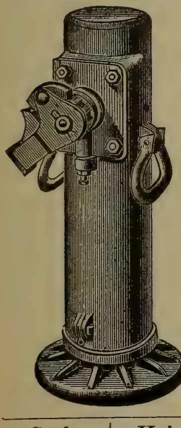


Fig. 180. 15-ton Style G. Without Hook.

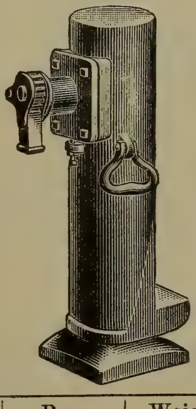


Fig. 181. 15-ton Style G. Foot-Lift Jack.

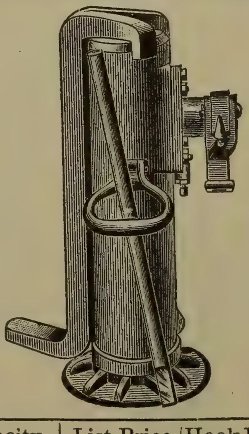


Fig. 182. 15-ton Style G. With Hook.

Style	Height	Rise	Base	Weight	Capacity	List Price	Hook Extra
G	22 in.	12 in.	10 in.	80 lbs.	15 tons	$25.00	$5.00
G	22 "	12 "	10 "	85 "	15 "	28.00	Foot cast on Shell.

Made from best quality malleable iron and steel throughout. In ordering, specify what style base is wanted and whether with or without hook.

BALL AND CONE-BEARING TRAVERSING JACKS, COMPLETE.

BALL-BEARING TRAVERSING JACK "C"

35 Tons, 20 in. Traverse.

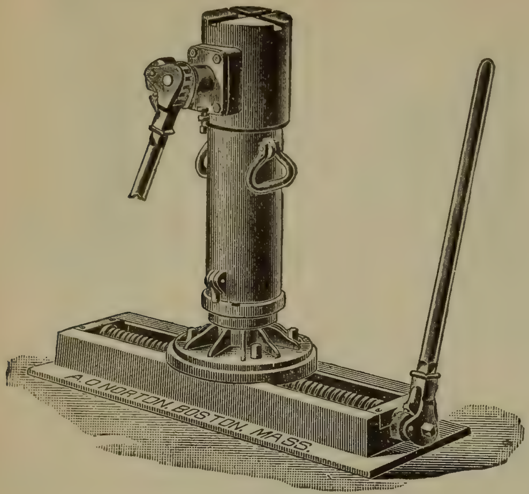

A.D.NORTON, BOSTON, MASS.

Fig. 183.

STEEL TRAVERSING BASE.

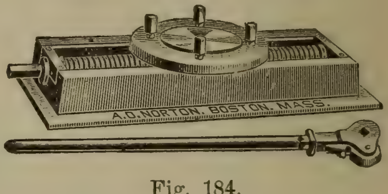

A.D.NORTON, BOSTON, MASS.

Fig. 184.

15-in. Traversing Base. Height 4 in.

Traverse.	Weight.	List Price.
20 inches.	124 pounds.	$40.00
15 "	60 "	35.00

BALL-BEARING TRAVERSING JACKS, COMPLETE.

Style of Jack.	Capacity.	Height over all.	Rise.	Traverse	List Price.
A	15 tons	30 inches	14 inches	15 inches	$ 95.00
F	15 "	28 "	10 "	20 "	100.00
A	20 "	30 "	14 "	20 "	120.00
N. A.	25 "	24 "	9 "	20 "	120.00
N. A.	25 "	30 "	14 "	20 "	130.00
C, 26 in.	35 "	30 "	14 "	20 "	165.00
B. J.	50 "	31 "	13 "	20 "	190.00
B. J.	60 "	30 "	12 "	20 "	215.00
K	20 "	24 "	9 "	20 "	110.00

CONE-BEARING TRAVERSING JACKS, COMPLETE.

Style of Jack.	Capacity.	Height over all.	Traverse.	List Price.
N. J.	10 tons	24 inches	15 inches	$59.00
G	15 "	26 "	15 "	60.00
D	10 "	26 "	15 "	55.00

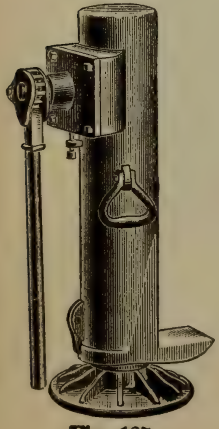


Fig. 185.

These Jacks can be taken off the bases and used *separately if desired.* It is the most Complete Tool Car Outfit in the market. Jacks are *Self-Lubricating* and *require no attention* whatever when left in car or shop for months at a time, winter or summer.

Any size, Height or Capacity Jack fitted to either base.

DOUBLE-SPEED BALL-BEARING JACK.

Style F. 15 Tons with Ground Lift.

Style.	Height.	Rise.	Diameter of Base.	Weight.	Capacity.	List Price.
F	24 in.	10 in.	10 in.	115 lbs.	15 tons.	$60.00

This Jack has large gear on ratchet shaft, giving it *double speed.* It is malleable iron and steel throughout, *extra strong*, and is especially adapted to *Electric Plants*, power houses on Electric Railways, and for handling heavy machinery, stone, etc.

"RELIANCE" HYDRAULIC JACKS.

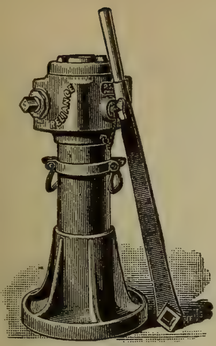


Fig. 186.

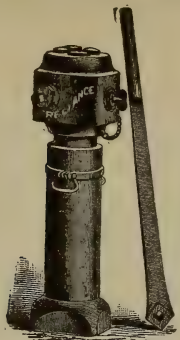


Fig. 187.

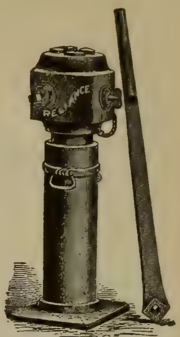


Fig. 188.

BROAD BASE, SQUARE BASE AND FLAT BASE PATTERN.

	Height when Closed.	Diameter of Base.	Weight	List.
10 ton, to rise 12 in.	26½ in.	9½ in.	108 lbs.	$125.00
10 " " 18 "	33 "	9½ "	124 "	135.00
15 " " 12 "	27½ "	13 "	141 "	150.00
15 " " 18 "	33½ "	13 "	164 "	165.00
20 " " 12 "	27½ "	13 "	173 "	175.00
20 " " 18 "	34½ "	13 "	199 "	190.00
30 " " 12 "	27½ "	13 "	217 "	200.00
30 " " 18 "	33½ "	13 "	246 "	225.00

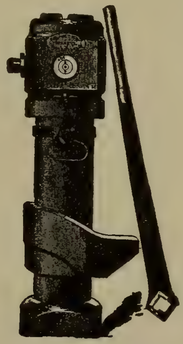


Fig. 189.

GROUND LIFT PATTERN.

	Height when Closed.	Height of Claw from Ground.	Diameter of Base.	Weight.	List.
10 ton, to rise 12 in.	26½ in.	5½ in.	5¾ in.	124 lbs.	$135.00
10 " " 18 "	33 "	5½ "	5¾ "	140 "	150.00
15 " " 12 "	27½ "	5½ "	6 "	154 "	162.00
15 " " 18 "	33½ "	5½ "	6 "	182 "	175.00
20 " " 12 "	28 "	6½ "	6½ "	188 "	190.00
20 " " 18 "	35 "	6½ "	6½ "	218 "	205.00
30 " " 12 "	28 "	6 "	7½ "	238 "	225.00
30 " " 18 "	35 "	6 "	7½ "	270 "	250.00

The best fluid for the Jacks is made of ONE PART WATER, SIX PARTS WHISKEY, AND ONE-HALF PART OF GOOD OIL, well shaken together before putting in JACK. NEVER USE COAL OIL, WOOD ALCOHOL OR WATER in filling, as the two former DESTROY the packing, and the latter will burst the cylinder in freezing weather, and rusts the metal.

DODGEON'S LATEST IMPROVED HYDRAULIC JACKS.

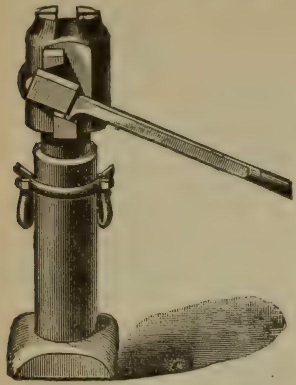


Fig. 190.

PLAIN JACK.

For use in presses, or where there is a firm foundation or support.

TONS LIFT	RUN OUT	HEIGHT	SIZE BOTTOM	WEIGHT	PRICE
4	12	24	4 sq.	46	$ 60
7	12	25	4½ "	64	70
7	18	32	4½ "	72	73
7	24	38	4½ "	80	75
10	12	25	6 "	80	80
10	18	32	6 "	98	95
10	24	39	6 "	110	110
15	12	26	6½ "	102	100
15	18	32	6½ "	120	125
15	24	39	6½ "	140	150
20	12	26	7 "	127	120
20	18	33	7 "	155	145
20	24	39	7 "	180	170
30	9	22	8 rd.	146	150
30	12	26	8 "	194	175
30	18	33	8 "	260	210
40	12	27	9 "	280	210
40	18	34	9 "	320	250

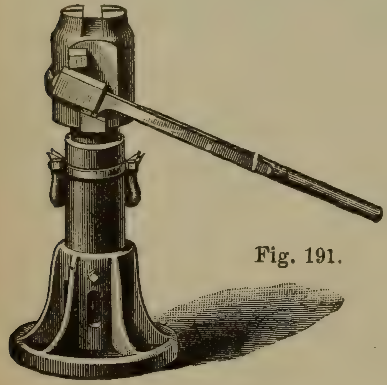


Fig. 191.

BASE JACK.

For railroad work, or where a broad base, insuring stability, is required.

TONS LIFT	RUN OUT	HEIGHT	DIAM. BASE	WEIGHT	PRICE
4	12	23	9½ in.	61	$ 60
7	12	25	10 "	82	80
7	18	31	10 "	100	85
7	24	38	10 "	120	90
10	12	25	11 "	109	95
10	18	31	11 "	125	110
10	24	39	11 "	145	125
15	12	25	12 "	135	125
15	18	32	12 "	158	150
15	24	39	12 "	176	175
20	12	26	13 "	169	150
20	18	33	13 "	198	175
20	24	39	13 "	228	200
30	9	22	14 "	210	170
30	12	26	14 "	259	200
30	18	33	14 "	300	235
40	12	27	14½ "	320	240
40	18	33	14½ "	360	280

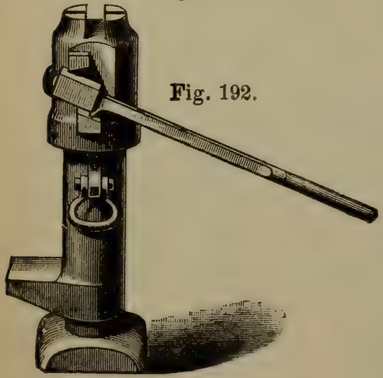


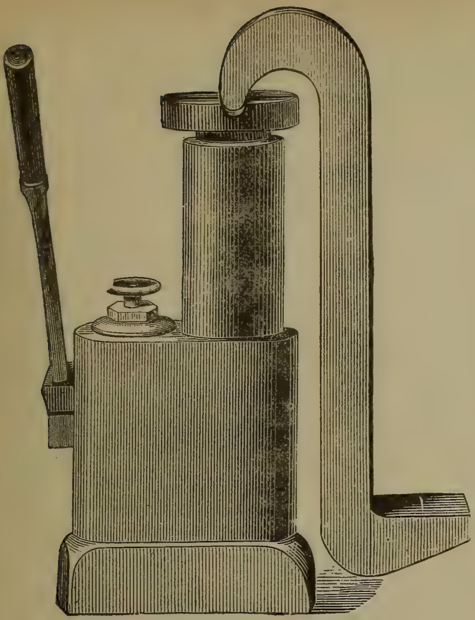
Fig. 192.

CLAW OR GROUND LIFTING JACK.

For machine shops, and for work that will not permit the head to be placed under the load.

TONS LIFT	RUN OUT	HEIGHT	SIZE BOTTOM	WEIGHT	PRICE
4	12	24	4 sq.	64	$ 60
7	12	25	4½ "	90	85
7	18	31	4½ "	110	88
7	24	38	4½ "	123	90
10	12	25	6 "	123	100
10	18	32	6 "	144	120
10	24	39	6 "	170	145
15	12	26	6½ "	162	150
15	18	32	6½ "	189	185
20	12	26	7 "	207	200
20	18	33	7 "	245	240
30	12	26	8 rd.	310	250

Special Sizes to Order.



SQUARE BASE. Fig. 193.

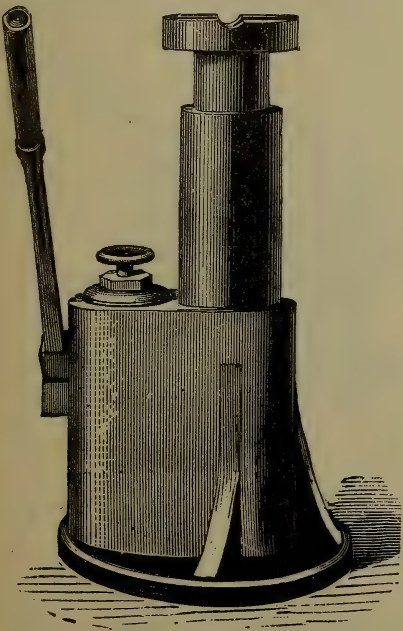
DUDGEON'S HYDRAULIC SQUARE BASE HORIZONTAL JACK.

With or without Removable Wrought Iron Jaw.

Tons	Run Out	Height	Size of Square Base	Weight	Price	Price with Claw, used with Square Base only
7	12	20	9 x5½	102	$80	$ 85
7	18	26	“	120	85	90
10	12	20	9½x7	135	95	105
10	18	26	“	166	110	125
10	24	32	“	196	130	150
15	12	21	“	150	125	150
15	18	26	“	187	150	180
15	24	32	“	200	175	215
20	12	21	11x8½	197	150	185
20	18	27	“	242	175	215
20	24	33	“	255	200	250

This style Jack is used where there is a firm foundation, and is especially adapted for use horizontally, as there is no projecting round base to interfere with placing the Jack on its side. Made in this style up to twenty tons capacity. Above twenty tons, the Oval Base style is used.

Horizontal Jacks, so called, as they will run out as far horizontally as vertically. While standing about five inches less over all will lift the same distance as those on preceding page. A removable Wrought Iron Claw which comes nearer to the ground may be used. All working parts are within the cistern, perfectly protected from injury, while the valves are still easy of access.



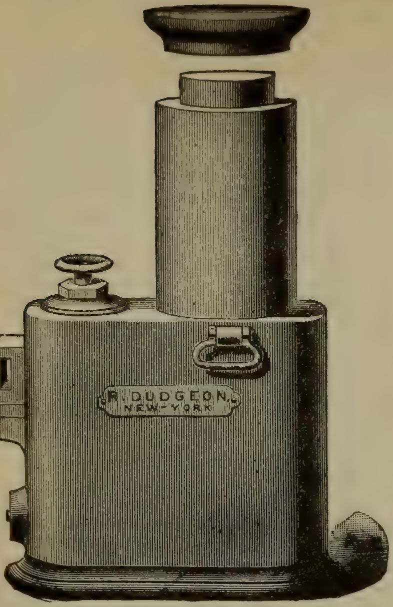
ROUND BASE Fig. 194.

ROUND BASE HORIZONTAL JACK.

Tons	Run Out	Height	Size of Round base	Weight	Price
7	12	20	11	102	$ 80
7	18	26	11	120	85
10	12	20	12	135	95
10	18	26	12	166	110
10	24	32	12	196	130
15	12	21	12	150	125
15	18	26	12	187	150
15	24	32	12	200	175
20	12	21	13½	197	150
20	18	27	13½	242	175
20	24	33	13½	255	200

This style Jack is used for railroad work, and where a firm foundation is difficult to obtain; also where a long lift with a low height over all is required. Made up to and including twenty tons capacity.

OVAL BASE HORIZONTAL JACK.



Tons	Run Out.	Height	Size of Oval Base	Weight	Price	Price with Claw.
30	12	22 in.	12½ x 9	234	$200	$240
30	18	28 "	12½ x 9	285	235	285
40	12	22 "	13½ x 10	320	240	290
40	18	28 "	13½ x 10	355	280	340
50	12	22 "	14 x 12	335	260	320
50	18	28 "	14 x 12	380	310	380
60	9	17 "	14 x 12	320	250	310
60	12	20 "	14 x 12	350	275	340
60	18	26 "	14 x 12	410	350	Claws for these sizes made to order.
80	9	19 "	16 x 13	425	310	
80	12	22 "	16 x 13	450	335	
80	18	28 "	16 x 13	525	385	
100	9	19 "	17 x 14½	520	375	
100	12	22 "	17 x 14½	570	400	
100	18	28 "	17 x 14½	660	475	
125	9	19 "	18 x 16	535	425	
125	12	22 "	18 x 16	585	450	
125	18	28 "	18 x 16	685	525	
150	12	23 "	20 x 17½	920	500	
150	18	29 "	20 x 17½	1160	575	
200	12	24 "	20 x 17½	950	600	
200	18	30 "	20 x 17½	1240	700	
250	12	25 "	20 x 17½	1400	725	
250	18	31 "	20 x 17½	1650	850	

Oval Base, Fig. 195.

Horizontal Jacks of 30 tons and over are made with this style Base. Rams are supplied with either large head (as shown in Figures Nos. 193 and 194) or with loose Cap, as here shown, as preferred. When Claws are used, the large head is necessary. Jacks of this style are provided with removable Wrought Iron Claws, when ordered. In this case a support and guide for the lower end of the Claw is cast on the Cistern. (Not shown in cut).

TRAVERSE JACK.

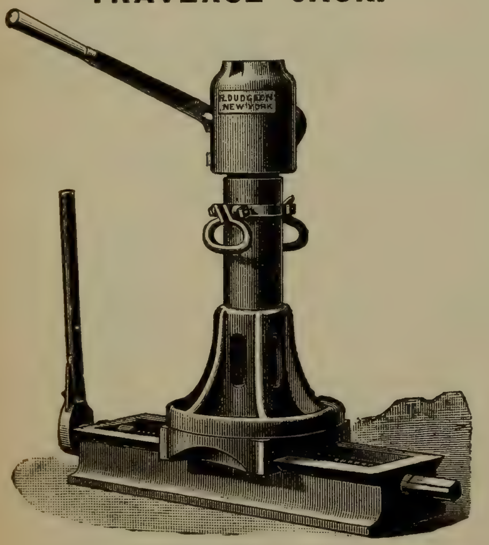


Fig. 196.

Tons.	Run Out.	Height.	Weight.	Price.
10	12 in.	30 in.	250	$150
15	12 "	30 "	275	185
20	12 "	31 "	310	225
30	12 "	32 "	425	285

CAR BRASS JACK.

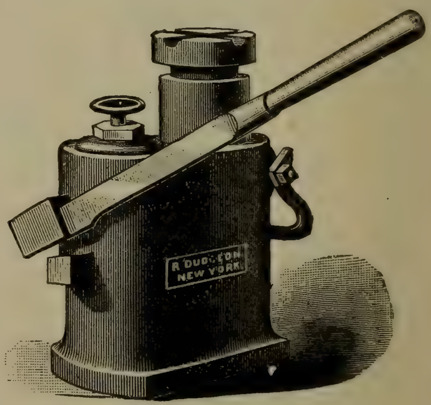


Fig. 197.

Tons.	Run Out.	Height.	Size of Bot.	Weight.	Price.
7	5	11	8 x 5	56	$75
10	5	12	8 x 5	60	90

This Jack is used by Car Inspectors for removing Brasses; also by those requiring a Jack of limited height.

MORSE TAPER OR STRAIGHT SHANKS, TAPER LENGTH.

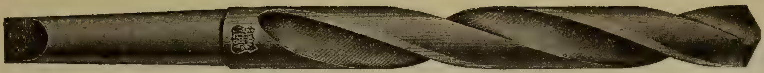


Fig. 198.

Diameter in Inches.	Price Each.	Length in Inches.	Socket for Standard or Morse Taper.
1-4	$0.60	6 1-8	NO. 1, $1.20.
17-64	65	6 1-4	
9-32	65	6 1-4	
19-64	70	6 3-8	
5-16	70	6 3-8	
21-64	75	6 1-2	
11-32	75	6 1-2	
23-64	80	6 3-4	
3-8	80	6 3-4	
25-64	85	7	
13-32	85	7	
27-64	90	7 1-4	
7-16	90	7 1-4	
29-64	95	7 1-2	
15-32	95	7 1-2	
31-64	1.00	7 3-4	
1-2	1.00	7 3-4	
33-64	1.10	8	
17-32	1.10	8	
35-64	1.20	8 1-4	
9-16	1.20	8 1-4	
37-64	1.30	8 1-2	
19-32	1.30	8 1-2	
39-64	1.40	8 3-4	NO. 2, $1.80.
5-8	1.40	8 3-4	
41-64	1.50	9	
21-32	1.50	9	
43-64	1.60	9 1-4	
11-16	1.60	9 1-4	
45-64	1.70	9 1-2	
23-32	1.70	9 1-2	
47-64	1.85	9 3-4	
3-4	1.85	9 3-4	
49-64	2.00	9 7-8	
25-32	2.00	9 7-8	
51-64	2.15	10	
13-16	2.15	10	
53-64	2.30	10 1-4	
27-32	2.30	10 1-4	
55-64	2.45	10 1-2	
7-8	2.45	10 1-2	
57-64	2.60	10 5-8	
29-32	2.60	10 5-8	
59-64	2.75	10 3-4	NO. 3, $2.50.
15-16	2.75	10 3-4	
61-64	2.90	10 7-8	
31-32	2.90	10 7-8	
63-64	3.00	11	
1	3.00	11	
1 1-64	3.20	11 1-8	
1 1-32	3.20	11 1-8	
1 3-64	3.40	11 1-4	
1 1-16	3.40	11 1-4	
1 5-64	3.60	11 1-2	
1 3-32	3.60	11 1-2	
1 7-64	3.80	11 3-4	
1 1-8	3.80	11 3-4	
1 9-64	$ 4.00	11 7-8	NO. 3, $2.50.
1 5-32	4.00	11 7-8	
1 11-64	4.20	12	
1 3-16	4.20	12	
1 13-64	4.40	12 1-8	
1 7-32	4.40	12 1-8	
1 15-64	4.50	12 1-2	
1 1-4	4.50	12 1-2	
1 17-64	4.65	14 1-8	NO. 4, $4.00.
1 9-32	4.65	14 1-8	
1 19-64	4.80	14 1-4	
1 5-16	4.80	14 1-4	
1 21-64	5.00	14 3-8	
1 11-32	5.00	14 3-8	
1 23-64	5.20	14 1-2	
1 3-8	5.20	14 1-2	
1 25-64	5.40	14 5-8	
1 13-32	5.40	14 5-8	
1 27-64	5.60	14 3-4	
1 7-16	5.60	14 3-4	
1 29-64	5.80	14 7-8	
1 15-32	5.80	14 7-8	
1 31-64	6.00	15	
1 1-2	6.00	15	
1 17-32	6.30	15 1-8	
1 9-16	6.60	15 1-4	
1 19-32	6.90	15 3-8	
1 5-8	7.20	15 1-2	
1 21-32	7.50	15 5-8	
1 11-16	7.80	15 3-4	
1 23-32	8.10	15 7-8	
1 3-4	8.40	16	
1 25-32	8.60	16 1-8	
1 13-16	8.80	16 1-4	
1 27-32	9.00	16 3-8	
1 7-8	9.20	16 1-2	
1 29-32	9.35	16 1-2	
1 15-16	9.50	16 1-2	
1 31-32	9.65	16 1-2	
2	9.80	16 1-2	
2 1-32	10.20	16 1-2	NO. 5, $7.50.
2 1-16	10.60	17	
2 1-8	11.20	17	
2 3-16	12.00	17	
2 1-4	12.80	17 1-2	
2 5-16	13.60	17 1-2	
2 3-8	14.40	18	
2 7-16	15.00	18 1-2	
2 1-2	15.60	19	
2 9-16	16.20	19 1-4	
2 5-8	16.80	19 1-2	
2 11-16	17.60	20	
2 3-4	19.00	20 1-2	
2 13-16	20.00	20 1-2	
2 7-8	21.00	21	
2 15-16	23.00	21	
3	25.00	22	

DRILLS FOR BLACKSMITHS' DRILL PRESSES.

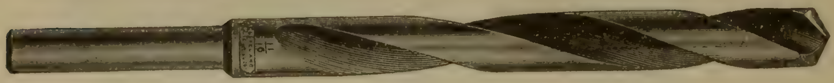


Fig. 199.

Diameter . .	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{13}{32}$	$\frac{7}{16}$	$\frac{15}{32}$	$\frac{1}{2}$
Length, inch .	$4\frac{7}{8}$	$4\frac{7}{8}$	$5\frac{5}{8}$	$5\frac{5}{8}$	6	6	6	6	6	6	6	6	6
Price, each .	$0.45	.48	.50	.55	.60	.65	.70	.73	.75	.78	.80	.83	.85
Diameter . .	$\frac{17}{32}$	$\frac{9}{16}$	$\frac{19}{32}$	$\frac{5}{8}$	$\frac{21}{32}$	$\frac{11}{16}$	$\frac{23}{32}$	$\frac{3}{4}$	$\frac{25}{32}$	$\frac{13}{16}$	$\frac{27}{32}$	$\frac{7}{8}$	$\frac{29}{32}$
Length inch .	6	6	6	6	6	6	6	6	6	6	6	6	6
Price each .	$0.88	.90	.95	1.05	1.10	1.15	1.20	1.25	1.30	1.35	1.40	1.45	1.50
Diameter . .	$\frac{15}{16}$	$\frac{31}{32}$	1	$1\frac{1}{32}$	$1\frac{1}{16}$	$1\frac{3}{32}$	$1\frac{1}{8}$	$1\frac{5}{32}$	$1\frac{3}{16}$	$1\frac{7}{32}$	$1\frac{1}{4}$	$1\frac{9}{32}$	$1\frac{5}{16}$
Length inch .	6	6	6	6	6	6	6	6	6	6	6	6	6
Price, each .	$1.60	1.70	1.80	1.90	2.00	2.10	2.20	2.25	2.30	2.35	2 40	2.50	2.60

The above drills have shanks $2\frac{1}{4}$ in. long and $\frac{1}{2}$ in. diameter.

STRAIGHT SHANK DRILLS.

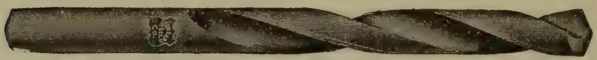


Fig. 200.

JOBBERS' AND MACHINISTS' SETS.

Diameter in Inches.	Price per Dozen.	Price Each.	Length in Inches.
1-16	$1 00	$0 09	2 1-2
5-64	1 10	10	2 5-8
3-32	1 20	11	2 3-4
7-64	1 30	12	2 7-8
1-8	1 45	13	3
9-64	1 60	15	3 1-8
5-32	1 80	16	3 1-4
11-64	2 00	18	3 3-8
3-16	2 20	20	3 1-2
13-64	2 40	21	3 5-8
7-32	2 65	23	3 3-4
15-64	2 90	26	3 7-8
1-4	3 15	28	4
17-64	3 40	30	4 1-8
9-32	3 65	32	4 1-4
19-64	3 90	35	4 3-8
5-16	4 20	37	4 1-2
21-64	4 50	40	4 5-8
11-32	4 80	42	4 3-4
23-64	5 10	45	4 7-8
3-8	5 40	48	5
25-64	5 70	50	5 1-8
13-32	6 00	53	5 1-4
27-64	6 40	55	5 3-8
7-16	6 80	59	5 1-2
29-64	7 20	63	5 5-8
15-32	7 50	65	5 3-4
31-64	7 75	67	5 7-8
1-2	8 00	70	6

LETTER SET

Diameter.	Decimals of Inch.	Price per Dozen.	Price Each.	Length in Inches.
A	.234	$2 90	$0 26	3 13-16
B	.238	3 00	27	3 13-16
C	.242	3 10	28	3 13-16
D	.246	3 20	29	3 13-16
E	.250	3 30	30	3 13-16
F	.257	3 40	30	4 1-4
G	.261	3 50	31	4 1-4
H	.266	3 60	32	4 1-4
I	.272	3 70	33	4 1-4
J	.277	3 80	34	4 1-4
K	.281	3 90	35	4 1-4
L	.290	4 00	36	4 1-4
M	.295	4 10	36	4 1-4
N	.302	4 20	37	4 1-4
O	.316	4 30	38	4 1-4
P	.323	4 40	39	4 5-8
Q	.332	4 60	40	4 3 4
R	.339	4 80	42	4 3-4
S	.348	5 00	44	4 7-8
T	.358	5 20	45	4 7-8
U	.368	5 40	47	5
V	.377	5 60	49	5
W	.386	5 80	51	5 1-8
X	.397	6 00	53	5 1-4
Y	.404	6 40	55	5 1-4
Z	.413	6 80	59	5 3-8

☞ For very exact work, a gauge plainly marked should accompany an order.

STUBS' STEEL WIRE GAUGE DRILLS.

Numbers by Gauge.	Price per Dozen.	Price Each.	Length in Inches.	Numbers by Gauge.	Price per Dozen.	Price Each.	Length in Inches.
1 to 5	$2.35	$0.22	4	31 to 35	$1.40	$0.14	2 5-8
6 " 10	2.25	.21	3 11-16	36 " 40	1.25	.12	2 7-16
11 " 15	2.10	.20	3 1-2	41 " 45	1.10	.10	2 1-4
16 " 20	1.95	.19	3 1-4	46 " 60	.95	.09	2 1-16-1 3-4
21 " 25	1.75	.17	3 1-16	61 " 70	.90	.08	1 1-2
26 " 30	1.55	.15	2 13-16	71 " 80	1.00	.09	1 5-16-3-4

TAPER SQUARE SHANK DRILLS,
FITTING RATCHETS.

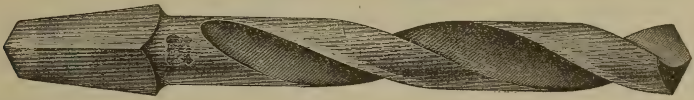


Fig. 201.

Shanks 5-8 in by 3-8 in., and 1½ in. long; and Shanks 3-4 in. by 1-2 in., and 1¾ in. long.

Diameter	Price Each.	Length in Inches	Diameter	Price Each.	Length in Inches	Diameter	Price Each.	Length in Inches.
1-4	$1.00	5	11-16	$1.45	6 1-2	1 1-8	$3.10	9
9-32	1.05	5	23-32	1.50	6 1-2	1 5-32	3.25	9
5-16	1.10	5	3-4	1.55	6 1-2	1 3-16	3.40	9
11-32	1.15	5	25-32	1.65	6 1-2	1 7-32	3.55	9
3-8	1.20	6	13-16	1.75	7	1 1-4	3.75	9 1-2
13-32	1.25	6 1-4	27-32	1.90	7	1 9-32	3.95	9 1-2
7-16	1.25	6 1-4	7-8	2.05	7 1-2	1 5-16	4.20	9 1-2
15-32	1.30	6 1-4	29-32	2.15	7 1-2	1 11-32	4.45	9 1-2
1-2	1.30	6 1-2	15-16	2.30	8	1 3-8	4.70	10
17-32	1.35	6 1-2	31-32	2.45	8	1 13-32	4.95	10
9-16	1.35	6 1-2	1	2.55	8 1-2	1 7-16	5.25	10
19-32	1.40	6 1-2	1 1-32	2.70	8 1-2	1 15-32	5.50	10
5-8	1.40	6 1-2	1 1-16	2.85	8 1-2	1 1-2	5.75	10
21-32	1.45	6 1-2	1 3-32	3.00	8 1-2			

STRAIGHT FLUTED STRAIGHT SHANK DRILLS.

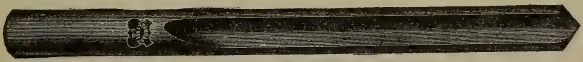


Fig. 202.

Diameter.	Price per Dozen.	Price Each.	Length in Inches.	Diameter.	Price per Dozen.	Price Each.	Length in Inches.
1-16	$1.00	$0.09	2 1-2	19-64	$3.90	$0.35	4 3-8
5-64	1.10	.10	2 5-8	5-16	4.20	.37	4 1-2
3-32	1.20	.11	2 3-4	21-64	4.50	.40	4 5-8
7-64	1.30	.12	2 7-8	11-32	4.80	.42	4 3-4
1-8	1.45	.13	3	23-64	5.10	.45	4 7-8
9-64	1.60	.15	3 1-8	3-8	5.40	.48	5
5-32	1.80	.16	3 1-4	25-64	5.70	.50	5 1-8
11-64	2.00	.18	3 3-8	13-32	6.00	.53	5 1-4
3-16	2.20	.20	3 1-2	27-64	6.40	.55	5 3-8
13-64	2.40	.21	3 5-8	7-16	6.80	.59	5 1-2
7-32	2.65	.23	3 3-4	29-64	7.20	.63	5 5-8
15-64	2.90	.26	3 7-8	15-32	7.50	.65	5 3-4
1-4	3.15	.28	4	31-64	7.75	.67	5 7-8
17-64	3.40	.30	4 1-8	1-2	8.00	.70	6
9-32	3.65	.32	4 1-4				

BIT STOCK DRILLS.

FOR METAL OR WOOD.

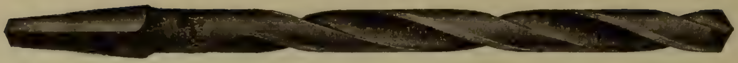


Fig. 203.

Diameter.	Price per Dozen.	Price Each.	Diameter.	Price per Dozen.	Price Each.
2-32 in.	$1.50	$0.14	14-32 in.	$8.80	$0.75
3-32 "	1.65	.16	15-32 "	9.60	.82
4-32 "	2.10	.20	16-32 "	10.30	.87
5-32 "	2.60	.24	17-32 "	11.00	.92
6-32 "	3.10	.29	9-16 "	14.35	1.20
7-32 "	3.60	.33	5-8 "	16.15	1.35
8-32 "	4.10	.38	11-16 "	17.95	1.50
9-32 "	4.70	.43	3-4 "	19.75	1.65
10-32 "	5.40	.48	13-16 "	21.55	1.80
11-32 "	6.30	.54	7-8 "	23.35	1.95
12-32 "	7.20	.62	15-16 "	25.75	2.15
13-32 "	8.00	.68	1 "	28.15	2.35

EXTRA LENGTH WOOD BORING BRACE DRILLS.

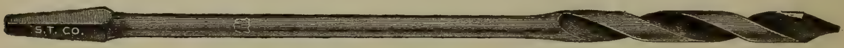


Fig. 204.

FOR BELLHANGERS, ELECTRICIANS, TELEPHONE AND TELEGRAPH WORK.

These Drills will go through plastering, nails and even brick walls, and can be sharpened when dull.

No.	12-INCH.		18-INCH.		24 INCH.		30-INCH.		36 INCH.	
	Per Doz.	Each.	Per Doz.	Each.	Per Doz.	Each.	Per Doz.	Each.	Per Doz.	Each.
6	$5.00	$0.50	$7.00	$0.70	$9.00	$0.90	$11.00	$1.10	$13.00	$1 30
8	5.00	.50	7.00	.70	9.00	.90	11.00	1.10	13.00	1.30
10	5.50	.55	7.50	.75	9.50	.95	12.00	1.20	13.00	1.30
12	6.00	.60	8.00	.80	10.00	1.00	12.00	1.20	13.00	1.30
14	7.00	.70	9.00	.90	11.00	1.10	13.00	1.30	14.00	1.40
16	8.00	.80	10.00	1.00	12.00	1.20	14.00	1.40	15.00	1.50
18	9.00	.90	11.00	1.10	13.00	1.30	15.00	1.50	16.00	1.60
20	10.00	1.00	12.00	1.20	14.00	1.40	15.00	1.50	16.00	1.60
22	11.00	1.10	13.00	1.30	15.00	1.50	16.00	1.60	17.00	1.70
24	12.00	1.20	14.00	1.40	16.00	1.60	17.00	1.70	18.00	1.80
26	13.00	1.30	15.00	1.50	17.00	1.70	18.00	1.80	18.00	1.80
28	14.00	1.40	16.00	1.60	18.00	1.80	19.00	1.90	19.00	1.90
30	15.00	1.50	17.00	1.70	19 00	1.90	20.00	2.00	20.00	2.00
32	16.00	1.60	18.00	1.80	20.00	2.00	20.00	2.00	20.00	2.00

WOOD BORING BRACE DRILLS.

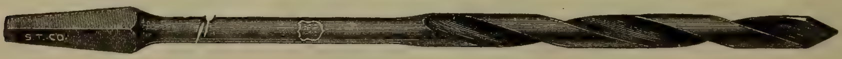


Fig. 205.

No.	Per Doz.	Each.	No.	Per Doz.	Each.	No.	Per Doz.	Each.
2	$1.60	$0.15	9	$3.50	$0.30	16	$5.00	$0.45
3	1.60	.15	10	3.50	.30	17	5.50	.50
4	1.60	.15	11	4.00	.35	18	5.50	.50
5	1.75	.18	12	4.00	.35	20	6.00	.55
6	2.00	.20	13	4.50	.40	22	6.50	.55
7	2.50	.22	14	4.50	.40	24	7.00	.60
8	3.00	.25	15	5.00	.45			

The numbers indicate the Sizes in 32ds of an inch.

STEEL SOCKETS FOR TAPER SHANK DRILLS.

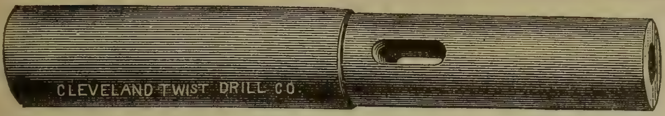
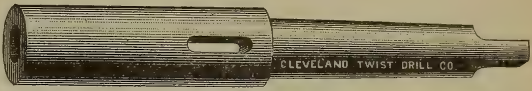

CLEVELAND TWIST DRILL CO.

Fig. 206, or ROUGH.

No. 1, Holds $\frac{1}{4}$ to $\frac{19}{32}$ in. inclusive . .	$1.20
No. 2, Holds $\frac{5}{8}$ to $\frac{29}{32}$ in. inclusive . .	1.80
No. 3, Holds $\frac{15}{16}$ to $1\frac{1}{4}$ in. inclusive . .	2.50
No. 4, Holds $1\frac{9}{32}$ to 2 in. inclusive . .	$4.00
No. 5, Holds $2\frac{1}{16}$ to 3 in. inclusive . .	7.50

Fig. 207. FITTED SOCKET.


CLEVELAND TWIST DRILL CO.

No. 1, With Shank fitted to No. 2 or 3 Socket	$2.00
No. 2, With Shank fitted to No. 3 Socket	2.50
No. 3, With Shank fitted to No. 4 Socket	3.20
No. 4, With Shank fitted to No. 5 Socket	4.80

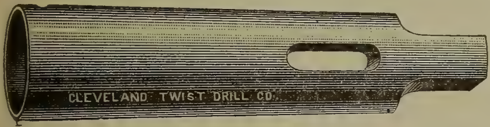

CLEVELAND TWIST DRILL CO.

Fig. 208. SLEEVE.

No. 1, Fitted to No. 2 or 3 Socket . .	$1.80
No. 2, Fitted to No. 3 Socket . . .	2.40
No. 3, Fitted to No. 4 Socket . . .	3.00
No. 4, Fitted to No. 5 Socket . . .	4.40

TAPER REAMERS FOR DRILL SOCKETS.

For Taper of Morse Drill Socket No. 1 . .	$2.00
" " " " " " " 2 . .	2.60
" " " " " " " 3 . .	3.40
For Taper of Morse Drill Socket No. 4 . .	$ 4.20
" " " " " " " 5 . .	6.60
" " " " " " " 6 . .	12.00

STANDARD TAPER PIN REAMERS.

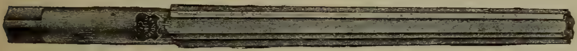


Fig. 209. Taper $\frac{1}{4}$ inch per foot.

Size No.	Price Each.	Diam. at Small End.	Length of Flute, in Inches.	Total Length in Inches.	Size No.	Price Each.	Diam. at Small End.	Length of Flute in Inches.	Total Length, in Inches.
0	$1.00	0.125	1 1-2	2 1-4	6	$2.25	0.279	3 5-8	5
1	1.00	0.146	1 3-4	2 1-2	7	2.50	0.331	4 1-2	6
2	1.25	0.162	2	3	8	3.00	0.398	5 1-4	6 3-4
3	1.50	0.183	2 1-4	3 1-2	9	3.50	0.482	6 1-8	8
4	1.75	0.208	2 1-2	4	10	4.00	0.581	7	
5	2.00	0.240	3	4 1-2					

These Reamers have the same taper, and each will overlay in convenient measure the size next smaller. Special sizes made to order.

TAPER REAMERS FOR LOCOMOTIVE WORK.

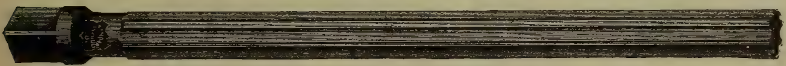


Fig. 210.

Taper $\frac{1}{16}$ or $\frac{3}{32}$ in. per foot.

Diameter at End, in Inches.	Price Each.	Length of Flute, in Inches.	Total Length, in Inches.	Diameter at End.	Price Each.	Length of Flute, in Inches.	Total Length, in Inches.
1-4	$2.20	4	5 5-16	13-16	$4.50	9	11 1-4
9-32	2.20	4	5 5-16	7-8	4.80	9	11 1-4
5-16	2.25	4	5 5-16	15-16	5.10	9	11 1-4
11-32	2.25	4	5 5-16	1	5.40	9	11 1-4
3-8	2.30	5	6 5-16	1 1-16	5.70	9	11 1-4
13-32	2.40	5	6 5-16	1 1-8	6.20	10	12 1-4
7-16	2.55	6	7 5-16	1 3-16	6.60	10	12 1-4
15-32	2.70	6	7 5-16	1 1-4	7.00	10	12 1-4
1-2	3.00	7	8 5-8	1 5-16	7.60	12	14 1-2
9-16	3.20	8	9 5-8	1 3-8	8.00	12	14 1-2
5-8	3.50	8	9 7-8	1 7-16	8.50	12	14 1-2
11-16	3.80	8	9 7-8	1 1-2	9.00	12	14 1-2
3-4	4.10	8	9 7-8				

PRICES OF DRILLS IN SETS.

No. 1.	Set of Taper Shank Drills, $\frac{1}{4}$ to 1 in., varying by 16ths	$20.00
No. 2.	Set of Taper Shank Drills, $\frac{3}{8}$ to $1\frac{1}{4}$ in., varying by 16ths	34.50
No. 3.	Set of Taper Shank Drills, $\frac{3}{8}$ to $\frac{3}{4}$ in., by 32ds, $\frac{3}{4}$ to $1\frac{1}{4}$ in. by 16ths	42.00
No. 4.	Set of Taper Shank Drills, $\frac{3}{8}$ to $\frac{3}{4}$ in., by 32ds, $\frac{3}{4}$ to 2 in. by 16ths, ...	131.00
No. 5.	Set Drills, Straight Shanks, $\frac{1}{16}$ to $\frac{1}{2}$ in., by 64ths, mounted	10.00
No. 6.	Set Drills, Straight Shanks, $\frac{1}{16}$ to $\frac{1}{2}$ in., by 32ds, mounted	5.40
No. 7.	Set Drills, from No. 60 to $\frac{3}{8}$ in., mounted, ...	9.90
No. 8.	Set Drills, Steel Wire Gauge, from No. 1 to 60, mounted	8.10
No. 9.	Half Set Drills, alternate Nos. from 1 to 59, mounted	4.30
No. 10.	Jewelers' Set of 36 Drills, No. 30 ($\frac{1}{8}$ in.) to No. 65, Steel Wire Gauge, mounted in a Mahogany case with cap	4.25
No. 11.	Set of Taper Shank Drills, $\frac{3}{8}$ to 2 in., by 32ds, ...	240.00
No. 12.	Set Machine Bits, $\frac{1}{8}$ in. to $\frac{1}{2}$ in., mounted, varying by 32ds, ...	7.00
No 13.	Set Bit Stock Drills, $\frac{1}{16}$ to $\frac{1}{4}$ by 32ds, $\frac{1}{4}$ to $\frac{3}{8}$ by 16ths, boxed	2 60

STANDARD HAND REAMERS.

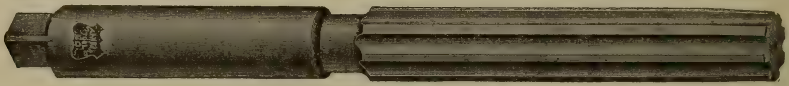


Fig. 211.

Diameter.	Price Each.	Length in Inches.	Length of Flute in Inches.	Diameter.	Price Each.	Length in Inches.	Length of Flute in Inches.
1-8 in.	$1.00	3	1 1-2	1 11-32 in.	$5.40	12 17-32	6 17-64
5-32 "	1.10	3 1-4	1 5-8	1 3-8 "	5.60	12 5-8	6 5-16
3-16 "	1.20	3 1-2	1 3-4	1 13-32 "	5.80	12 23-32	6 23-64
7-32 "	1.30	3 3-4	1 7-8	1 7-16 "	6.00	12 13-16	6 13-32
1-4 "	1.40	4	2	1 15-32 "	6.20	12 29-32	6 29-64
9-32 "	1.45	4 1-4	2 1-8	1 1-2 "	6.40	13	6 1-2
5-16 "	1.50	4 1-2	2 1-4	1 17-32 "	6.60	13	6 1-2
11-32 "	1.55	4 3-4	2 3-8	1 9-16 "	6.80	13	6 1-2
3-8 "	1.60	5	2 1-2	1 19-32 "	7.00	13	6 1-2
13-32 "	1.70	5 1-4	2 5-8	1 5-8 "	7.20	13	6 1-2
7-16 "	1.75	5 1-2	2 3-4	1 21-32 "	7.40	13 1-2	6 3-4
15-32 "	1.85	5 3-4	2 7-8	1 11-16 "	7.60	13 1-2	6 3-4
1-2 "	1.90	6	3	1 23-32 "	7.80	13 1-2	6 3-4
17-32 "	1.95	6 1-4	3 1-8	1 3-4 "	8.00	13 1-2	6 3-4
9-16 "	2.00	6 1-2	3 1-4	1 25-32 "	8.20	13 1-2	6 3-4
19-32 "	2.10	6 3-4	3 3-8	1 13-16 "	8.40	13 1-2	6 3-4
5-8 "	2.20	7	3 1-2	1 27-32 "	8.60	13 1-2	6 3-4
21-32 "	2.30	7 11-32	3 43-64	1 7-8 "	8.80	14	7
11-16 "	2.40	7 11-16	3 27-32	1 29-32 "	9.00	14	7
23-32 "	2.50	8 1-8	4 1-16	1 15-16 "	9.20	14	7
3-4 "	2.60	8 3-8	4 3-16	1 31-32 "	9.40	14	7
25-32 "	2.70	8 23-32	4 23-64	2	9.60	14	7
13-16 "	2.80	9 1-16	4 17-32	2 1-16 "	10.00	14 1-2	7 1-4
27-32 "	2.95	9 3-8	4 11-16	2 1-8 "	10.40	14 1-2	7 1-4
7-8 "	3.10	9 11-16	4 27-32	2 3-16 "	10.80	15	7 1-2
29-32 "	3.25	10 3-32	5 3-64	2 1-4 "	11.30	15	7 1-2
15-16 "	3.40	10 1-4	5 1-8	2 5-16 "	11.80	15	7 1-2
31-32 "	3.55	10 11-16	5 11-32	2 3-8 "	12.30	15	7 1-2
1	3.70	10 7-8	5 7-16	2 7-16 "	12.80	15 1-2	7 3-4
1 1-32 "	3.85	11 1-16	5 17-32	2 1-2 "	13.40	15 1-2	7 3-4
1 1-16 "	4.00	11 1-4	5 5-8	2 9-16 "	14.00	15 1-2	7 3-4
1 3-32 "	4.15	11 7-16	5 23-32	2 5-8 "	14.60	16	8
1 1-8 "	4.30	11 5-8	5 13-16	2 11-16 "	15.40	16	8
1 5-32 "	4.45	11 13-16	5 29 32	2 3-4 "	16.20	16	8
1 3-16 "	4.60	12	6	2 13-16 "	17.00	16 1-2	8 1-4
1 7-32 "	4.75	12 1-8	6 1-16	2 7-8 "	17.80	16 1-2	8 1-4
1 1-4 "	4.90	12 1-4	6 1-8	2 15-16 "	18.60	16 1-2	8 1-4
1 9-32 "	5.05	12 11-32	6 11-64	3	19.40	16 1-2	8 1-4
1 5-16 "	5.20	12 7-16	6 7-32				

STANDARD SHELL REAMERS.

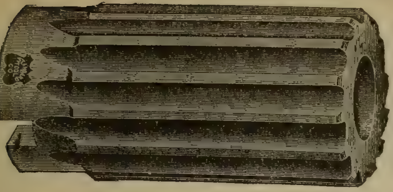


Fig. 212.

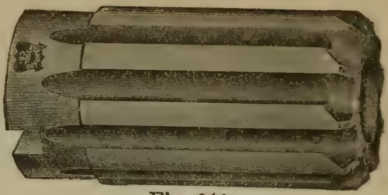


Fig. 213.

Diameter in Inches.	Price Each.	Length in Inches.	Size Hole in Inches.	Diameter in Inches.	Price Each.	Length in Inches.	Size Hole in Inches.
1-4	$1.10	1 1-2	1-8	2 13-16	$8.40	4	1 1-2
5-16	1.10	1 1-2	1-8	2 7-8	8.80	4	1 1-2
3-8	1.20	1 3-4	3-16	2 15-16	9.20	4	1 1-2
7-16	1.30	1 3-4	3-16	3	9.60	4	1 1-2
1-2	1.40	2	1-4	3 1-16	9.90	4 1-2	1 3-4
9-16	1.50	2	1-4	3 1-8	10.20	4 1-2	1 3-4
5-8	1.60	2 1-4	3-8	3 3-16	10.60	4 1-2	1 3-4
11-16	1.60	2 1-4	3-8	3 1-4	11.00	4 1-2	1 3-4
3-4	1.60	2 1-2	1-2	3 5-16	11.50	4 1-2	1 3-4
13-16	1.60	2 1-2	1-2	3 3-8	12.00	4 1-2	1 3-4
7-8	1.70	2 1-2	1-2	3 7-16	12.50	4 1-2	1 3-4
15-16	1.70	2 1-2	1-2	3 1-2	13.00	4 1-2	1 3-4
1	1.80	2 3-4	5-8	3 9-16	13.50	5	2
1 1-16	1.80	2 3-4	5-8	3 5-8	14.00	5	2
1 1-8	1.90	2 3-4	5-8	3 11-16	14.50	5	2
1 3-16	2.00	2 3-4	5-8	3 3-4	15.00	5	2
1 1-4	2.20	2 3-4	5-8	3 13-16	15.50	5	2
1 5-16	2.40	3	3-4	3 7-8	16.00	5	2
1 3-8	2.60	3	3-4	3 15-16	17.00	5	2
1 7-16	2.80	3	3-4	4	18.00	5	2
1 1-2	3.00	3	3-4	4 1-16	18.30	5 1-2	2 1-4
1 9-16	3.20	3	3-4	4 1-8	18.60	5 1-2	2 1-4
1 5-8	3.50	3	3-4	4 3-16	19.00	5 1-2	2 1-4
1 11-16	3.80	3 1-2	1	4 1-4	19.40	5 1-2	2 1-4
1 3-4	4.10	3 1-2	1	4 5-16	19.80	5 1-2	2 1-4
1 13-16	4.40	3 1-2	1	4 3-8	20.20	5 1-2	2 1-4
1 7-8	4.70	3 1-2	1	4 7-16	20.60	5 1-2	2 1-4
1 15-16	5.00	3 1-2	1	4 1-2	21.00	5 1-2	2 1-4
2	5.20	3 1-2	1	4 9-16	21.60	5 1-2	2 1-4
2 1-16	5.40	3 3-4	1 1-4	4 5-8	22.20	6	2 1-2
2 1-8	5.60	3 3-4	1 1-4	4 11-16	22.80	6	2 1-2
2 3-16	5.80	3 3-4	1 1-4	4 3-4	23.40	6	2 1-2
2 1-4	6.00	3 3-4	1 1-4	4 13-16	24.00	6	2 1-2
2 5-16	6.20	3 3-4	1 1-4	4 7-8	24.60	6	2 1-2
2 3-8	6.40	3 3-4	1 1-4	4 15-16	25.20	6	2 1-2
2 7-16	6.60	3 3-4	1 1-4	5	26.00	6	2 1-2
2 1-2	6.80	3 3-4	1 1-4	5 1-4	30.00	6	2 1-2
2 9-16	7.00	4	1 1-2	5 1-2	34.00	6	2 1-2
2 5-8	7.30	4	1 1-2	5 3-4	38.00	6	2 1-2
2 11-16	7.60	4	1 1-2	6	42.00	6	2 1-2
2 3-4	8.00	4	1 1-2				

ARBORS FOR SHELL REAMERS.

No.	Fitting Sizes. Inches.	Full Length. Inches.	Price Each.	No.	Fitting Sizes. Inches.	Full Length Inches.	Price Each
1	$\frac{1}{4}$ to $\frac{5}{16}$	6	$1.20	8	$1\frac{11}{16}$ to 2	12	$2.70
2	$\frac{3}{8}$ to $\frac{7}{16}$	7	1.40	9	$2\frac{1}{16}$ to $2\frac{1}{2}$	13	3.00
3	$\frac{1}{2}$ to $\frac{9}{16}$	8	1.60	10	$2\frac{9}{16}$ to 3	14	3.40
4	$\frac{5}{8}$ to $\frac{11}{16}$	9	1.80	11	$3\frac{1}{16}$ to $3\frac{1}{2}$	15	5.00
5	$\frac{3}{4}$ to $\frac{15}{16}$	$9\frac{1}{2}$	2.00	12	$3\frac{9}{16}$ to 4	16	7.00
6	1 to $1\frac{1}{4}$	10	2.20	13	$4\frac{1}{16}$ to $4\frac{1}{2}$	17	8.50
7	$1\frac{5}{16}$ to $1\frac{5}{8}$	11	2.40	14	$4\frac{9}{16}$ to 5	18	11.50

ROSE CHUCKING REAMER.

MORSE TAPER SHANK.

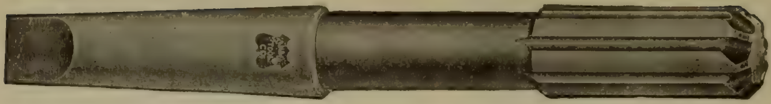


Fig. 214.

FLUTED CHUCKING REAMER.

MORSE TAPER SHANKS.

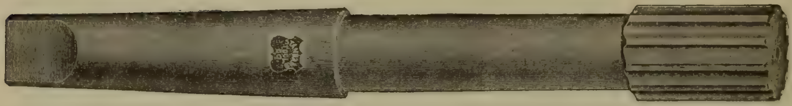


Fig. 215.

Diameter.	Price Each.	Full Length.	Length of Flutes. Rose Reamer.	Length of Flute. Fluted Reamer.	Socket for Morse Taper.
1/4	$1.20	6 in.	1 1/2 in.	7/8	No. 1.
9/32	1.20	6 "	1 1/2 "	7/8	
5/16	1.30	6 "	1 1/2 "	7/8	
11/32	1.30	6 "	1 1/2 "	7/8	
3/8	1.45	7 "	1 3/4 "	1	
13/32	1.50	7 "	1 3/4 "	1	
7/16	1.55	7 "	1 3/4 "	1	
15/32	1.60	7 "	1 3/4 "	1	
1/2	1.65	8 "	2 "	1 1/8	
17/32	1.70	8 "	2 "	1 1/8	
9/16	1.75	8 "	2 "	1 1/8	
19/32	1.80	8 "	2 "	1 1/8	No. 2.
5/8	1.90	9 "	2 1/4 "	1 1/4	
21/32	1.95	9 "	2 1/4 "	1 1/4	
11/16	2.00	9 "	2 1/4 "	1 1/4	
23/32	2.10	9 "	2 1/4 "	1 1/4	
3/4	2.20	9 1/2 "	2 1/2 "	1 3/8	
25/32	2.30	9 1/2 "	2 1/2 "	1 3/8	
13/16	2.40	9 1/2 "	2 1/2 "	1 3/8	
27/32	2.50	9 1/2 "	2 1/2 "	1 3/8	
7/8	2.55	10 "	2 5/8 "	1 1/2	No. 3.
29/32	2.60	10 "	2 5/8 "	1 1/2	
15/16	2.65	10 "	2 5/8 "	1 1/2	
31/32	2.70	10 "	2 5/8 "	1 1/2	
1	2.75	10 1/2 "	2 3/4 "	1 5/8	
1 1/32	2.80	10 1/2 "	2 3/4 "	1 5/8	
1 1/16	2.85	10 1/2 "	2 3/4 "	1 5/8	
1 3/32	2.95	10 1/2 "	2 3/4 "	1 5/8	
1 1/8	3.10	11 "	2 7/8 "	1 3/4	
1 5/32	3 20	11 "	2 7/8 "	1 3/4	
1 3/16	3.30	11 "	2 7/8 "	1 3/4	
1 7/32	3.40	11 "	2 7/8 "	1 3/4	
1 1/4	$3.50	11 1/2 in.	3 in.	1 7/8	No. 4.
1 5/16	3.70	11 1/2 "	3 "	1 7/8	
1 3/8	3.95	12 "	3 1/4 "	2	
1 7/16	4.15	12 "	3 1/4 "	2	
1 1/2	4.40	12 1/2 "	3 1/2 "	2 1/8	
1 9/16	4.60	12 1/2 "	3 1/2 "	2 1/8	
1 5/8	4.85	13 "	3 3/4 "	2 1/4	
1 11/16	5.10	13 "	3 3/4 "	2 1/4	
1 3/4	5.30	13 1/2 "	4 "	2 3/8	No. 5.
1 13/16	5.50	13 1/2 "	4 "	2 3/8	
1 7/8	5.70	14 "	4 1/4 "	2 1/2	
1 15/16	5:95	14 "	4 1/4 "	2 1/2	
2	6.20	14 "	4 1/4 "	2 1/2	
2 1/16	6.50	14 1/2 "	4 1/2 "	2 3/4	
2 1/8	6.80	14 1/2 "	4 1/2 "	2 3/4	
2 3/16	7.10	14 1/2 "	4 1/2 "	2 3/4	
2 1/4	7.40	14 1/2 "	4 1/2 "	2 3/4	
2 5/16	7.70	15 "	4 3/4 "	3	
2 3/8	8.00	15 "	4 3/4 "	3	
2 7/16	8.40	15 "	4 3/4 "	3	
2 1/2	8.80	15 "	4 3/4 "	3	
2 9/16	9.20	15 1/2 "	5 "	3 1/4	
2 5/8	9.60	15 1/2 "	5 "	3 1/4	
2 11/16	10.00	15 1/2 "	5 "	3 1/4	
2 3/4	10.40	15 1/2 "	5 "	3 1/4	
2 13/16	10.80	16 "	5 1/4 "	3 1/2	
2 7/8	11.20	16 "	5 1/4 "	3 1/2	
2 15/16	11.60	16 "	5 1/4 "	3 1/2	
3	12.00	16 "	5 1/4 "	3 1/2	

STANDARD V THREAD.

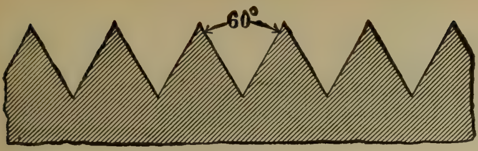


Fig. 216.

This cut illustrates the style of V thread, and the following table gives the Standard Pitch, as accepted for the same :

Diameter, inches	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1
Pitch or No. Thread . . .	20	18	16	14	12	12	11	11	10	10	9	9	8
Diameter, inches	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	
Pitch or No. Thread . . .	7	7	6	6	5	5	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2	4	
Diameter, inches	2 5/8	2 3/4	2 7/8	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	
Pitch or No. Thread . . .	4	4	4	3 1/2	3 1/2	3 1/2	3 1/4	3 1/4	3 1/4	3	3	3	

U. S. STANDARD THREAD.

ALSO KNOWN AS FRANKLIN INSTITUTE STANDARD.

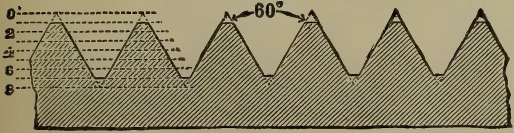


Fig. 217.

The above cut illustrates the style of U. S. Standard, threads having same angle as V Standard thread, *i. e.*, 60 degrees, but has flat top and bottom, equal to one-eighth of the pitch. The following table gives the Standard Pitch for the same :

Diameter, inches	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1
Pitch or No. Thread . . .	20	18	16	14	13	12	11	11	10	10	9	9	8
Diameter, inches	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	
Pitch or No. Thread . . .	7	7	6	6	5 1/2	5	5	4 1/2	4 1/2	4 1/2	4	4	
Diameter, inches	2 5/8	2 3/4	2 7/8	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	
Pitch or No. Thread . . .	4	4	3 1/2	3 1/2	3 1/2	3 1/2	3 1/4	3 1/4	3 1/4	3	3	3	

WHITWORTH STANDARD THREAD.

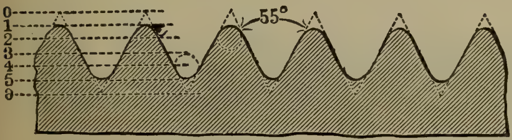


Fig. 218.

This cut illustrates the Whitworth style of thread, and the following table gives the Standard Pitch for same:

Diameter, inches	1/4	5/16	3/8	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16	1
Pitch or No. Thread . . .	20	18	16	14	12	12	11	11	10	10	9	9	8
Diameter, inches	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	
Pitch or No. Thread . . .	7	7	6	6	5	5	4 1/2	4 1/2	4 1/2	4	4	4	
Diameter, inches	2 5/8	2 3/4	2 7/8	3	3 1/8	3 1/4	3 3/8	3 1/2	3 5/8	3 3/4	3 7/8	4	
Pitch or No. Thread . . .	4	3 1/2	3 1/2	3 1/2	3 1/2	3 1/4	3 1/4	3 1/4	3 1/4	3	3	3	

Taps with Whitworth's Standard threads are made to order, at same list prices as Taps with V and United States Standard threads.

MACHINISTS' HAND TAPS.

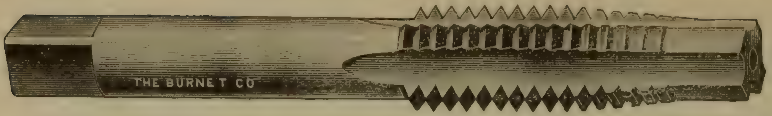


Fig. 219.

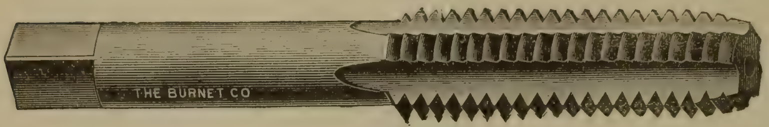


Fig. 220.

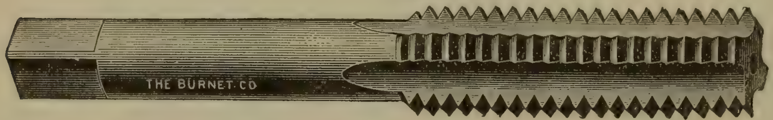


Fig. 221.

Taper, Plug and Bottoming comprise a Set of Taps.

Diameter. Inches.	Standard No. V Threads to Inch.	U. S. Standard No. of Threads.	V Threads also Furnished.	Price Each.	Price per Set.
1/4	20	20	16, 18, 22, 24. 26, 28, 32	$ 0.45	$ 1.35
5/16	18	18	16, 20. 22, 24, 26, 28	.50	1.50
3/8	16	16	14, 18, 20, 22, 24. 26. 28	.55	1.65
7/16	14	14	12. 16, 18, 20, 22, 24, 26	.60	1.80
1/2	12	13	14, 16, 18, 20, 22, 24, 26	.70	2.10
9/16	12	12	14, 20, 22 24 26	.80	2.40
5/8	11	11	10, 12, 20, 22, 24, 26	.90	2.70
11/16	11	11	10, 12, 20, 22, 24, 26	1.05	3.15
3/4	10	10	12, 20, 22, 24, 26	1.20	3.60
13/16	10	10	12	1.40	4.20
7/8	9	9	10, 12, 20, 22, 24, 26	1.60	4.80
15/16	9	9		1.80	5.40
1	8	8	12, 20, 22, 24, 26	2.00	6.00
1 1/8	7	7	8	2.25	6.75
1 1/4	7	7		2.60	7.80
1 3/8	6	6		3.00	9.00
1 1/2	6	6		3.50	10.50
1 5/8	5	5 1/2		4.20	12.60
1 3/4	5	5		5.00	15.00
1 7/8	4 1/2	5		5.80	17.40
2	4 1/2	4 1/2		6.70	20.10
2 1/8	4 1/2	4 1/2		8.00	24.00
2 1/4	4 1/2	4 1/2		9.20	27.60
2 3/8	4 1/2	4		10.50	31.50
2 1/2	4	4		11.50	34.50
2 5/8	4	4		13.00	39.00
2 3/4	4	4		14.00	42.00
2 7/8	4	3 1/2		15.50	46.50
3	3 1/2	3 1/2		17.00	51.00
3 1/8	3 1/2	3 1/2		18.75	56.25
3 1/4	3 1/2	3 1/2		20.50	61.50
3 3/8	3 1/4	3 1/4		22.00	66.00
3 1/2	3 1/4	3 1/4		24.00	72.00
3 5/8	3 1/4	3 1/4		26.00	78.00
3 3/4	3	3		28.50	85.50
3 7/8	3	3		30.00	90.00
4	3	3		32.50	97.50

Hand Taps, with left-hand threads, 1/4 to 2 inches diameter, at same list price as right-hand threads

In ordering Taps always specify if V Thread or U. S. Standard Thread is desired. Taps ordered over-size, up to 1/32 of an inch will be charged as regular sizes.

MACHINISTS' HAND TAPS.

WITH V THREADS.

Taper, Plug and Bottoming Taps Comprise a Set.

Fig. 222.—Taper.

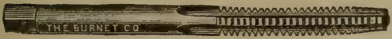


Fig. 223.—Plug.

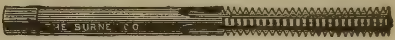


Fig. 224.—Bottoming.

Diameter Inches.	Standard No. V. Threads to Inch.	Threads also Furnished.	Price Each.	Price per Set.
1/16	72	60 and 64	$0.35	$1.05
5/64	72	56 60 and 64	.35	1.05
3/32	56	48, 50, 52, 54 and 60	.35	1.05
7/64	56	48, 50 and 60	.35	1.05
1/8	40	32, 36, 44 and 48	.35	1.05
9/64	40	30, 32 and 36	.35	1.05
5/32	32	30, 36 and 40	.35	1.05
11/64	32	36 and 40	.35	1.05
3/16	24	22, 28, 32 and 36	.35	1.05
13/64	24	22, 28, 32 and 36	.35	1.05
7/32	24	28, 30, 32 and 36	.35	1.05
15/64	24	28, 32 and 36	.35	1.05
1/4	20	18, 22, 24, 26, 28 and 32	.45	1.35
17/64	20	18, 22, 24, 26, 28 and 32	.45	1.35

MACHINISTS' HAND TAPS.

WITH UNITED STATES STANDARD FORM OF THREAD.

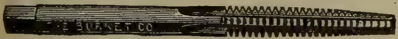


Fig. 225.—Taper.

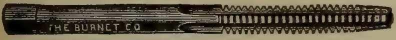


Fig. 226.—Plug.

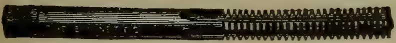


Fig. 227.—Bottoming.

Diameter. Inches.	Standard No. of Threads to Inch.	Threads also Furnished.	Price Each.	Price per Set.
1/16	64	60	$0.35	$1.05
3/32	50	48, 56 and 60	.35	1.05
1/8	40	44 and 48	.35	1.05
5/32	36	32 and 40	.35	1.05
3/16	32	22, 24 and 36	.35	1.05
7/32	28	24, 32 and 36	.35	1.05
1/4	20	18, 22, 24 and 26	.45	1.35

MACHINE SCREW TAPS.

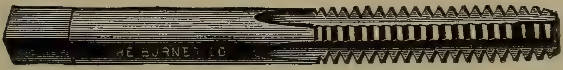


Fig. 228.

Size of Screw Gauge.	Approximate Size in Inches.	Standard No. of Threads.	Threads also Furnished.	Price Each.	Price per Doz.
No. 1	1/16	..	56, 60, 64, 72	$0.35	$4.00
2	5/64	56	48, 64	.35	4.00
4	7/64	36	30 32, 40, 42, 44, 48	.35	4.00
6	9/64	32	30, 36, 38, 40, 44, 48	.35	4.00
8	5/32	32	24, 30, 36, 40, 44	.35	4.00
10	3/16	24	20, 22, 28, 30, 32, 36	.35	4.00
12	7/32	24	20, 22, 26, 28, 30, 32, 34, 36	.35	4.00
14	1/4	20	16, 18, 22, 24, 26	.38	4.40
16	17/64	18	16, 20 22, 24, 26	.38	4.40
18	9/32	18	16, 20, 22, 24, 26	.38	4.40
20	5/16	16	18, 20, 22, 24	.45	5.30
24	3/8	16	14, 18, 20, 22, 24	.45	5.30

Less than six Taps of a size and thread will be charged as single Taps.

MACHINE OR NUT TAPS.

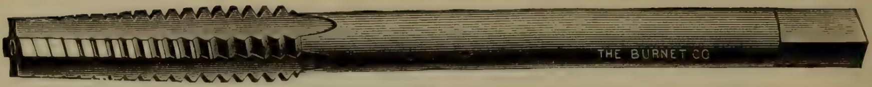


Fig. 229.

Diameter. Inches	Standard No. of V Threads to Inch.	U. S. Standard No. of Threads.	V Threads also Furnished.	Length over All. Inches.	Price Each.
¼	20	20	16, 18	5	$ 0.60
5/16	18	18	16	5½	.70
⅜	16	16	14, 18	6½	.80
7/16	14	14	12, 16	7	.90
½	12	13	14	7½	1.00
9/16	12	12	14	8	1.15
⅝	11	11	10, 12	8½	1.30
11/16	11	11	12	9	1.45
¾	10	10	..	9½	1.60
13/16	10	10	..	10	1.80
⅞	9	9	10	10½	2.10
15/16	9	9	..	11	2.40
1	8	8	..	11½	2.80
1⅛	7	7	8	12	3.20
1¼	7	7	8	12½	3.70
1⅜	6	6		13	4.20
1½	6	6		13½	4.70
1⅝	5	5½		14	5.30
1¾	5	5		14½	6.00
1⅞	4½	5		15	6.80
2	4½	4½		15½	7.70
2⅛	4½	4½		16	9.00
2¼	4½	4½		16½	10.20
2⅜	4½	4		17	11 50
2½	4	4		17½	12.50
2⅝	4	4		18	14.00
2¾	4	4		18½	15.00
2⅞	4	3½		19	16.50
3	3½	3½		19½	18.00
3⅛	3½	3½		20	19.75
3¼	3½	3½		20½	21.50
3⅜	3¼	3¼		20½	23.00
3½	3¼	3¼		21	25.00
3⅝	3¼	3¼		21	27.00
3¾	3	3		21	29.50
3⅞	3	3		21	31.00
4	3	3		21	33.50

Nut Taps, with left-hand threads, ¼ to 2 inches diameter, are listed at same price as right-hand threads.

In ordering always specify if V Thread or U. S. Standard Thread is desired. Also in ordering V Thread state if over-size or even size is wanted. Taps ordered over-size, up to 1/32 of an inch, will be charged as regular sizes.

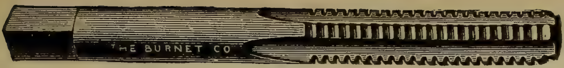


Fig. 230.

STOVE-BOLT TAPS.

Diameter, inches	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$
No. Threads to inch	28	24	22	18	18	16
Price each	$0.35	.35	.35	.38	.38	.45
" per dozen	4.00	4.00	4.00	4.40	4.40	5.30

Less than six Taps of a size will be charged as single Taps.

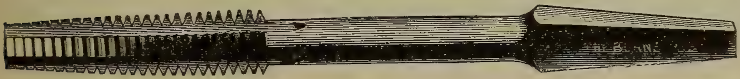


Fig. 231.

BIT-BRACE TAPS.

Diameter, inches	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$
No. Threads to inch	24	20	18	16	14	12 & 13
Price each	$0.50	.50	.55	.60	.70	.80

All Bit-Brace Taps are sent even-size, unless over size is called for on the order.

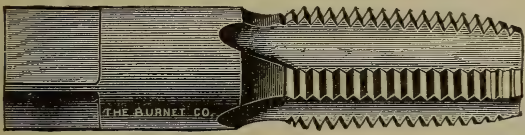

THE BURNET CO.

Fig. 232.

PATCH-BOLT TAPS.

Diameter, inches	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1
No. Threads to inch	12	12	12	12	12	12	12	12	12
Price each	$0.70	.80	.90	1.05	1.20	1.40	1.60	1.80	2 00

These Taps are made especially for boiler-makers. They are slightly tapered, for the purpose of making the bolt a *steam-tight* fit.

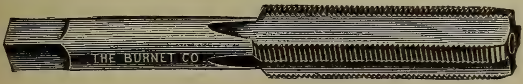


Fig. 233.

BRAZED BRASS TUBING TAPS.

Right or Left Hand.

Diameter, inches,	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
No. Threads to inch	27	27	27	27	27	27	27	27	27
Price each	$0.45	.50	.55	.60	.70	.90	1.20	1.60	2.00

These Taps cut a straight thread.

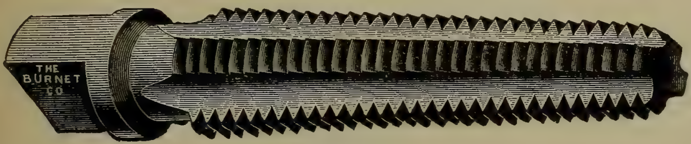


Fig. 234.

BLACKSMITHS' TAPER TAPS.

Diameter, Inches.	No. of Threads to Inch.	Price Each.	Diameter, Inches.	No. of Threads to Inch.	Price Each.
$\frac{1}{4}$	18, 20 and 24	$0.30	$\frac{3}{4}$	10 and 12	$0.65
$\frac{5}{16}$	16, 18 and 20	.30	$\frac{7}{8}$	9 and 10	.90
$\frac{3}{8}$	14, 16 and 18	.35	1	8	1.25
$\frac{7}{16}$	14, 16 and 18	.40	$1\frac{1}{8}$	7 and 8	1.50
$\frac{1}{2}$	12, 14 and 16	.40	$1\frac{1}{4}$	7 and 8	1.75
$\frac{9}{16}$	12 and 14	.50	$1\frac{1}{2}$	6	3.00
$\frac{5}{8}$	10, 11 and 12	.50			

PIPE TAPS, HOBS AND REAMERS.

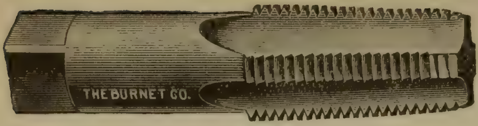

THE BURNET CO.

Fig. 235.

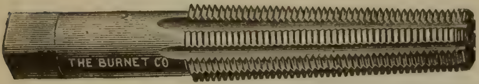


Fig. 236.

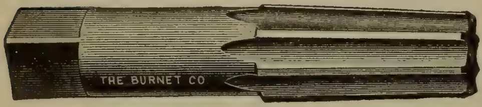


Fig. 237.

Diameter.	Price Each.
$\frac{1}{8}$	$1.12
$\frac{1}{4}$	1.25
$\frac{3}{8}$	1.50
$\frac{1}{2}$	1.87
$\frac{3}{4}$	2.50
1	3.12
$1\frac{1}{4}$	3.75
$1\frac{1}{2}$	4.62
2	6.25
$2\frac{1}{2}$	10.50
3	15.00
$3\frac{1}{2}$	22.00
4	33.00

All Pipe Taps are sent with Right-hand Threads, unless Left-hand is specified on order.

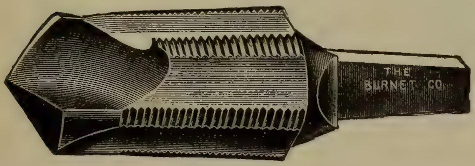


Fig. 238.

COMBINED PIPE TAP AND DRILL

FOR TAPPING GAS AND WATER PIPES.

Diameter, inches	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Length, inches	$3\frac{3}{4}$	4	$4\frac{1}{4}$	$4\frac{1}{2}$	$4\frac{3}{4}$	5	$5\frac{1}{2}$	$5\frac{3}{4}$	$6\frac{1}{2}$
Price, each	$1.50	1.75	2.20	3.00	3.80	4.80	5.80	7.60	10.00

Shanks for sizes $\frac{1}{4}$ to $1\frac{1}{2}$ inches are $\frac{11}{16}$ inch by $\frac{1}{2}$ inch, and $1\frac{3}{4}$ inches long.

Shanks for sizes 2 and $2\frac{1}{2}$ inches are 1 inch by $\frac{3}{4}$ inch, and 2 inches long.

STAY-BOLT TAPS.

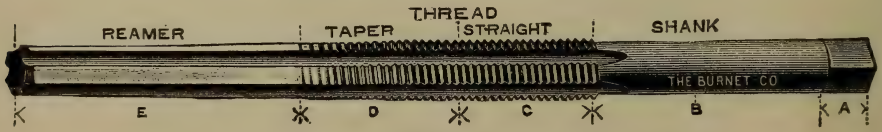
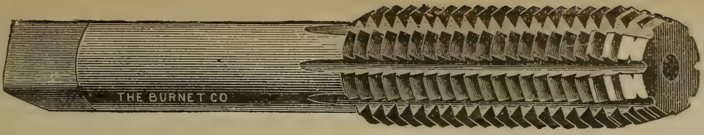


Fig. 239.

DIAMETER.	PRICE EACH.											
	16 in.	18 in.	21 in.	24 in.	27 in.	30 in.	33 in.	36 in.	39 in.	42 in.	48 in.	54 in.
$\frac{3}{4}$, $\frac{13}{16}$, $\frac{7}{8}$ in.	$ 5.60	$ 7 20	$ 8.00	$ 8.80	$10.90	$13.00	$14.00	$15.00	$16.50	$18.00	$19.00	$20.00
$\frac{15}{16}$, 1 "	6.60	8.50	9.35	10.20	12.25	14.25	15.40	16.50	18.00	19.75	21.00	22.25
$1\frac{1}{16}$, $1\frac{1}{8}$ "	7.60	9.50	10.35	11.20	13.25	15.25	16.40	17.50	20.00	22.00	23.50	25.00
$1\frac{3}{16}$, $1\frac{1}{4}$ "	9.00	10.50	12.00	12.75	14.75	16.50	18.00	19.50	22.00	24.00	25.50	27.00
$1\frac{5}{16}$, $1\frac{3}{8}$ "	11.00	12.50	14.00	15.00	17.00	18.50	20.00	21.50	24.00	26.00	28.00	30.00
$1\frac{7}{16}$, $1\frac{1}{2}$ "	13.00	14.50	16.00	17.00	19.00	20.00	22.00	23.50	26.00	28.00	30.00	32.00

All orders for these taps should give exact diameter and number of threads per inch, also length of parts A, B, C, D, and E. Unless otherwise ordered, we shall send these taps with twelve threads to the inch.

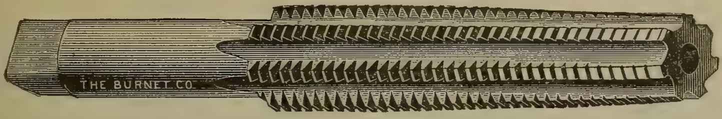
Stay-Bolt Taps carried in stock are $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch diameter, twelve threads to the inch, 16, 18, 24, 30, 36 and 42 inches long.



SHORT HOB TAPS.

For Cutting Open Dies.

Fig. 240.


THE BURNET CO.

HOB OR MASTER TAPS

For Cutting Solid Dies.

Fig. 241.

Diameter. Inches.	Standard No. of V Threads to Inch.	V Threads also Furnished.	Length over All. Short Hob Taps.	Price Each. Short Hob Taps.	Length over All. Hob or Master Taps.	Price Each. Hob or Master Taps.
1/4	20	16 and 18	2 3/4	$0.60	4	$0.75
5/16	18	16	3 1/8	.70	4 3/4	.87
3/8	16	14	3 1/2	.80	5 1/2	1.00
7/16	14	16	3 3/4	.90	6 1/8	1.12
1/2	12	13 and 14	4	1.00	6 1/2	1.25
9/16	12	..	4 1/4	1.15	6 7/8	1.44
5/8	11	10 and 12	4 1/2	1.30	7 1/4	1.62
11/16	11	12	4 3/4	1.45	7 5/8	1.81
3/4	10	..	5	1.60	8	2.00
13/16	10	..	5 1/4	1.80	8 1/4	2.25
7/8	9	..	5 1/2	2.10	8 1/2	2.62
15/16	9	..	5 3/4	2.40	8 7/8	3.00
1	8	..	6	2.80	9 1/4	3.50
1 1/8	7	8	6 1/4	3.20	9 5/8	4.00
1 1/4	7	8	6 3/4	3.70	10	4.62
1 3/8	6	..	7	4.20	10 3/8	5.25
1 1/2	6	..	7 1/4	4.70	10 3/4	5.87
1 5/8	5	5 1/2	8	5.30	11 1/8	6.62
1 3/4	5	..	8 1/2	6.00	11 1/2	7.50
1 7/8	4 1/2	5	9	6.80	11 7/8	8.50
2	4 1/2	..	9 1/2	7.70	12 1/4	9.62

Over-size Hobs will be charged on next higher list.

Hob or Master Taps are sent even-size, unless over-size is called for.

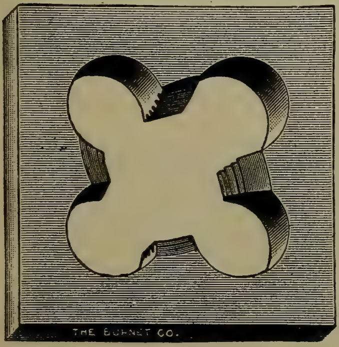

THE BURNET CO.

Fig. 242.

MACHINE OR SOLID BOLT DIES.

Size Die.	Cutting Size.	Threads.	Each.
2 1/2 x 1/2	1/4	20, 18	$1.80
2 1/2 x 1/2	5/16	18, 16	1.80
2 1/2 x 1/2	3/8	16, 14	1.80
2 1/2 x 1/2	7/16	14, 12	1.80
2 1/2 x 3/4	1/2	12, 13	1.80
2 1/2 x 3/4	9/16	12	1.90
2 1/2 x 3/4	5/8	10, 11, 12	2.00
2 1/2 x 3/4	3/4	10, 12	2.25
2 1/2 x 3/4	7/8	9, 10, 12	.40
2 1/2 x 1	1	8, 12	2.70
2 1/2 x 1	1 1/8	7	3.00
2 1/2 x 1	1 1/4	7	3.30

We also make Solid Dies; outside dimensions, 3 x 3/4, 3 x 1, 4 x 3/4, 4 x 1 in.; cutting sizes, 1/4 to 1 1/2
All Solid Bolt Dies will be sent even-size, unless over-size is specified on the order.

SCREW PLATES.

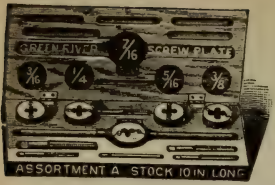


Fig. 242 to 245.

Fig. 242. SET A, 3-16 to 7-16 inch; Stock 10 inches long and 5 sizes Taps, Dies and Guides, 3-16, 1-4, 5-16, 3-8, 7-16 inch.
Price, complete in case,. $8.00

Fig. 243. SET A, Stock 10 inches long and Screw Gauge, sizes of Taps, Dies and Guides, Nos. 14, 16, 18, 20, 24.
Price, complete in case, ... $8.00
Diameter of Dies in these sets, 1 5-16 inches.

Fig. 244. Like Fig. 242, with Adjustable Tap Wrench, . $10.35

Fig. 245. Like Fig. 243, with Adjustable Tap Wrench, . 10.35

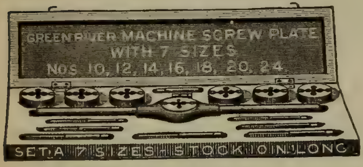

GREEN RIVER MACHINE SCREW PLATE
WITH 7 SIZES
NOS. 10, 12, 14, 16, 18, 20, 24
SET A 7 SIZES STOCK 10 IN LONG

Fig. 246 247.

Fig. 246. SET A, with 7 sizes, Nos. 10 to 24. Stock 10 inches long; and Screw Gauge sizes Nos. 10, 12, 14, 16, 18, 20 and 24.
Price, complete in case,. $10.00
Diameter of Dies in this set, 1 5-16 inch.

Fig. 247. SET A, as above, with Adjustable Tap Wrench, ... $12.35

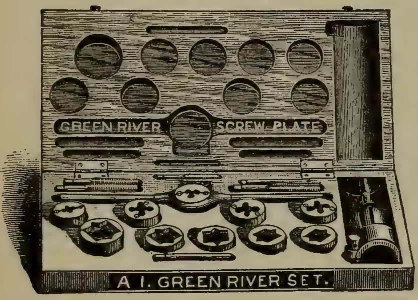


Fig. 248.

Fig. 248. SET A1. 3-16 to 7-16 inch. Stock 10 inches long; Bit Brace Holder and Nut Wrenches. 5 sizes Taps, Dies, Guides and Nut Wrenches, 3-16, 1-4, 5-16, 3-8, 7-16 inches.
Price in case, ... $10.00
Diameter of Dies in this set, 1 5-16 inch.

PRICES OF SINGLE PARTS FOR SETS A AND A1:

Dies, all regular sizes, each, ...	$1.00
Guides, each, ...	.20
Stocks (10 inches long), each, ...	1.50
Holders for use in bit brace (see cut below),	.75
Holders for use in lathe (see cut below), .	.75
Nut Wrenches to fit in stock or holders, each,	.20

HOLDERS FOR DIES IN SETS "A" AND "A 1."

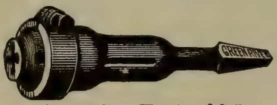


Fig. 249.—Each, $0.75.

To use in Machine
or Bit Brace.

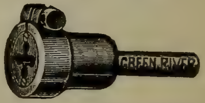


Fig. 250. Each, $0.75.

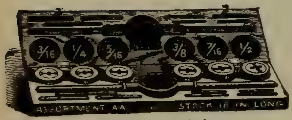


Fig. 251-254.

Fig. 251. SET AA, 3-16 to 1-2 inch. Stock 18 inches long. 6 sizes, 3-16, 1-4, 5 16, 3-8, 7-16, 1-2 inch Taps, Dies and Collets.
Price, complete, ... $13.50
Diameter of Collets in this set, 2 3-16 inches.

Fig. 252. SET AA, as above, with Adjustable Tap Wrench, $15.85

Fig. 253. 1-4 to 3-4 inch. Stock 23 inches long, 5 sizes, 1-4, 3-8, 1-2, 5-8, 3-4 inch Taps, Dies and Collets.
Price, complete, ... $13.00
Diameter of Collets in this set, 2 3-4 inches.

Fig. 254. Same as Fig. 253, but with Adjustable Tap Wrench, ... 16.00

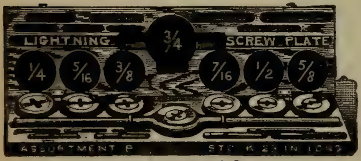


Fig. 255-256.

Fig. 255. SET B, 1-4 to 3-4 inch. Stock 23 inches long. 7 sizes, 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4 inch Taps, Dies and Collets.
Price, complete, ... $16.00
Diameter of Collets in this set, 2 3-4 inches.

Fig. 256. SET B, as above, with Adjustable Tap Wrench, ... $19.00

Will send above sets 1-32 oversize, V thread, unless otherwise ordered

THE LIGHTNING SCREW PLATES.

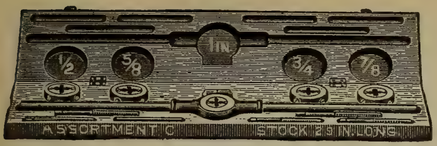


Fig. 257.

Fig. 257. SET C, 1-2 to 1 inch. Stock 29 inches long. 5 sizes, 1-2, 5-8, 3-4, 7-8, 1 in. Taps, Dies and Collets.

Price, complete $18.50

Diameter of Collets in this set, 2 3-4 in.

Fig. 258. SET C, 1-2 to 1 in., as above, with Adjustable Tap Wrench $22.50

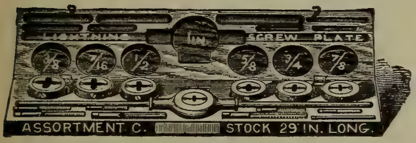


Fig. 259.

Fig. 259. SET C, 3-8 to 1 inch. Stock 29 inches long. 7 sizes, 3-8, 7-16, 1-2, 5-8, 3-4, 7-8, 1 inch Taps, Dies and Collets.

Price, complete $22.00

Diameter of Collets in this set, 2 3-4 in.

Fig. 260. SET C. 3-8 to 1 in., as above, with Adjustable Tap Wrench $26.00

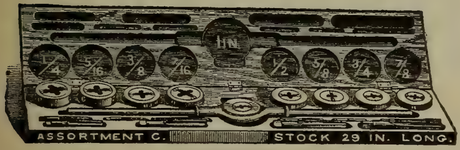


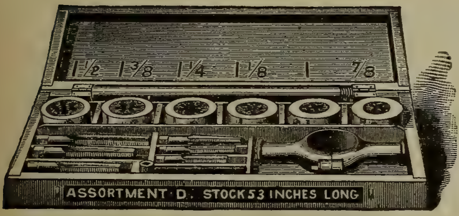
Fig. 261.

Fig. 261. SET C, 1-4 to 1 inch. Stock 29 inches long. 9 sizes, 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4, 7-8, 1 inch Taps, Dies and Collets.

Price, complete $25.50

Diameter of Collets in this set, 2 3 4 in.

Fig. 262. SET C, 1-4 to 1 in., as above, with Adjustable Tap Wrenches . . . $31.85



1 1/2
1 3/8
1 1/4
1 1/8
1
7/8
ASSORTMENT D. STOCK 53 INCHES LONG

Fig. 263.

Fig. 263. SET D, 7-8 to 1 1-2 inch. Stock, 53 inches long. 6 sizes, 7-8. 1, 1 1-8, 1 1-4, 1 3-8, 1 1-2 in. Taps, Dies and Collets.

Price complete $45.00

Diameter and Collets in this set, 4 1-4 in.

Adjustable Tap Wrench . . . $8.00

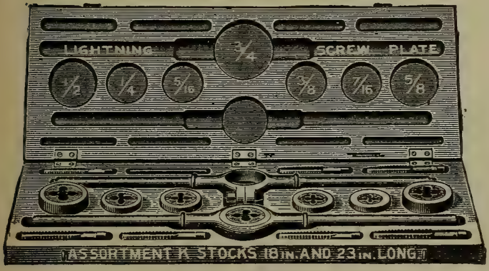


Fig. 264.

Fig. 264. SET K, 1-4 to 3-4 in. 7 sizes. Two Stocks, one 18 inches long, and one 23 inches long; and 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4 inch Taps, Dies and Collets.

Price complete $18.00

Diameter of Collets in this set 7-16 inch, and under, 2 3-16 in.

Diameter of Collets in this set, 1-2 in. and over, 2 3-4 in.

Fig. 265. SET K, as above, with Adjustable Tap Wrench $21.00

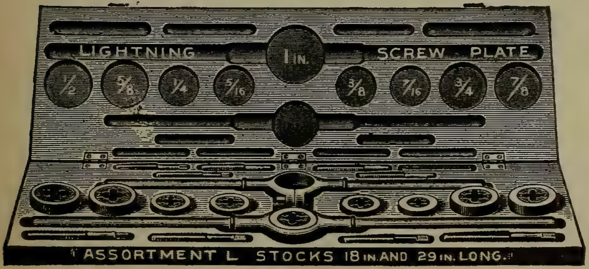


Fig. 266

Fig. 266. SET L, 1-4 to 1 inch. 9 sizes. Two Stocks, one 18 inches long, and one 29 inches long, and 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4, 7-8, 1 inch Taps, Dies and Collets.

Price complete . . . $27.50

Diameter of Collets in this set, 7-16 in. and under, 2 3-16 in.

Diameter of Collets in this set, 1-2 in. and over, 2 3-4 in.

Fig. 267. SET L, as above, with Adjustable Tap Wrenches $33.85

THE NEW FULL-MOUNTED LIGHTNING SCREW PLATE.

A STOCK TO EACH DIE.

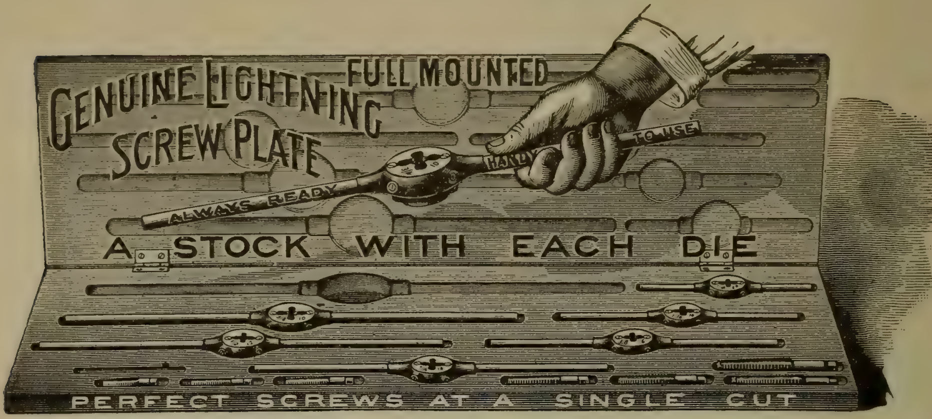
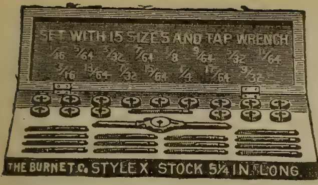

GENUINE LIGHTNING FULL MOUNTED
SCREW PLATE
ALWAYS READY
HANDY
TO USE
A STOCK WITH EACH DIE
PERFECT SCREWS AT A SINGLE CUT

Fig. 268.

Instead of having but a single stock to a set of several Dies, each Die is furnished complete with its own stock of suitable size and weight. The time and trouble in fitting and changing Dies for each occasion is saved. All the Dies in a set can be used at the same time.

Fig. 268.	$\frac{3}{16}$ to $\frac{1}{2}$ inch. A stock to each Die. 6 sizes, $\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ inch Taps, Dies and Stocks. Complete, in case	$12.00
Fig. 269.	Same as Fig. 268, but with Adjustable Tap Wrench	14.35
Fig. 270.	$\frac{1}{4}$ to $\frac{3}{4}$ inch. A stock to each Die. 5 sizes, $\frac{1}{4}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ inch Taps, Dies and Stocks. Complete, in case	12.50
Fig. 271.	Same as Fig. 270, but with Adjustable Tap Wrench	15.50
Fig. 272.	Set BB. $\frac{1}{4}$ to $\frac{3}{4}$ inch. A stock to each Die. 7 sizes, $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ inch Taps, Dies and Stocks. Complete, in case	16.00
Fig. 273.	Same as Fig. 272, but with Adjustable Tap Wrench	19.00
Fig. 274.	Set CE. $\frac{1}{2}$ to 1 inch. A stock to each Die. 5 sizes, $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch Taps, Dies and Stocks. Complete, in case	18.50
Fig. 275.	Same as Fig. 274, but with Adjustable Tap Wrench	22.50
Fig. 276	Set CC. $\frac{3}{8}$ to 1 inch. A stock to each Die. 7 sizes, $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch Taps, Dies and Stocks. Complete, in case	22.00
Fig. 277.	Same as Fig. 276, but with Adjustable Tap Wrench	26.00
Fig. 278.	Set CCC. $\frac{1}{4}$ to 1 inch. A stock to each Die. 9 sizes, $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch Taps, Dies and Stocks. Complete, in case	25.50
Fig. 279.	Same as Fig. 278, but with 2 Adjustable Tap Wrenches	31.85
Fig. 280.	$\frac{1}{2}$ to $1\frac{1}{4}$ inches. A stock to each Die. 7 sizes, $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Stocks. Complete, in case	34.75
Fig. 281.	Same sizes as in Fig. 280, but with case holding sizes 1 inch and under only ($1\frac{1}{8}$ and $1\frac{1}{4}$ inch not being held in the case). Price	31.50
Fig. 282.	$\frac{3}{8}$ to $1\frac{1}{4}$ inches. A stock to each Die. 9 sizes, $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Stocks. Complete, in case	37.50
Fig. 283.	Same sizes as in Fig. 282, but with case holding sizes 1 inch and under only ($1\frac{1}{8}$ to $1\frac{1}{4}$ inch not being held in the case). Price	35.00
Fig. 284.	$\frac{1}{4}$ to $1\frac{1}{2}$ inches. A stock to each Die. 13 sizes, $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{3}{8}$ $1\frac{1}{2}$ inch Taps, Dies and Stocks. Complete, in case	60.00
Fig. 285.	Same sizes as in Fig. 284, but with case holding sizes 1 inch and under only (sizes $1\frac{1}{8}$ to $1\frac{1}{2}$ inch not being held in the case). Price	55.75

NOTE.—Will send above sets $\frac{1}{32}$ over-size, V Thread, unless otherwise ordered.


SET WITH 15 SIZES AND TAP WRENCH
THE BURNET Co. STYLE X. STOCK 5¼ IN. LONG.

Figs. 286 to 293.

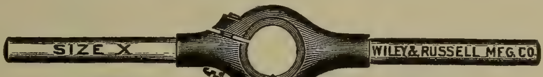
"X" SCREW PLATE.

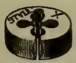
(ADJUSTABLE DIES, 5-8 INCH DIAMETER.)
(WITHOUT GUIDES.)

PRICES OF SINGLE PARTS OF "X" SETS.

Stock	$0 40
Dies, each	40
Taps, "	40
Tap Wrench (fitting in stock)	40
Elastic Die Holders, Figs. 297 and 298, each	50

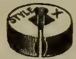
Fig. 287. Case containing Stock, Tap Wrench (fitting in stock) and 5 sizes of Taps and Dies, $\frac{1}{8}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{7}{32}$ $\frac{1}{4}$ inch. Price, complete	$4 25
Fig. 288. Case containing Stock, Tap Wrench (fitting in stock) and 5 Screw Gauge sizes of Taps and Dies, Nos. 4, 6, 8, 10, 12. Price, complete	4 25
Fig. 289. Case containing Stock, Tap Wrench (fitting in stock) and 7 sizes of Taps and Dies $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{7}{32}$ $\frac{1}{4}$ inch. Price. complete	5 75
Fig. 290. Case containing Stock Tap Wrench (fitting in stock) and 7 Screw Gauge sizes of Taps and Dies. Nos. 4, 6, 8, 10, 12, 14, 16. Price, complete	5 75
Fig. 291. Case containing Stock, Tap Wrench (fitting in stock) and 10 sizes of Taps and Dies, $\frac{1}{16}$ $\frac{5}{64}$ $\frac{3}{32}$ $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{7}{32}$ $\frac{1}{4}$ inch. Price, complete	7 50
Fig. 292. Case containing Stock, Tap Wrench (fitting in stock) and 10 Screw Gauge sizes of Taps and Dies, Nos. 2, 3, 4, 5, 6, 8, 10. 12, 14, 16. Price complete	7 50
Fig. 293. Case containing Stock, Tap Wrench (fitting in stock) and 12 sizes of Taps and Dies, $\frac{5}{64}$ $\frac{3}{32}$ $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{11}{64}$ $\frac{3}{16}$ $\frac{13}{64}$ $\frac{7}{32}$ $\frac{15}{64}$ $\frac{1}{4}$ inch. Price, complete	9 00
Fig. 286. Case containing Stock, Tap Wrench (fitting in stock) and 15 sizes of Taps and Dies, $\frac{1}{16}$ $\frac{5}{64}$ $\frac{3}{32}$ $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{11}{64}$ $\frac{3}{16}$ $\frac{13}{64}$ $\frac{7}{32}$ $\frac{15}{64}$ $\frac{1}{4}$ $\frac{17}{64}$ $\frac{9}{32}$ inch. Price, complete	11 00





ADJUSTABLE DIE
Fig. 294.

ELASTIC STOCK
Fig. 295.



TAP WRENCH
Fig. 296.

ELASTIC DIE HOLDERS.

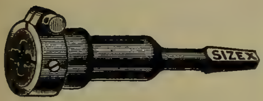


Fig. 297.

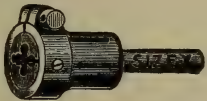


Fig. 298.

FORM OF TAP FURNISHED WITH ALL ABOVE PLATES.

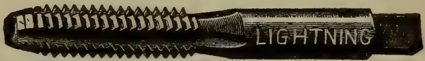


Fig. 299.

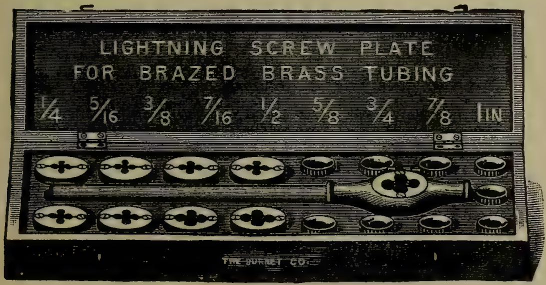


Fig. 300.

These Dies are made to thread Brazed Brass Tubing which is quite thin and therefore requires a fine thread. All that we supply regularly cut 27 threads to the inch, and cut straight, not tapering. The Tubing is measured by its outside diameter.

The stock is made to take a long guide.

The Dies are $2\frac{3}{4}$ inches outside diameter.

Fig. 301. Consisting of Stock 35 inches long and 7 sizes of Dies (right or left), and Guides. $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ and $\frac{3}{4}$ inch, all 27 threads.

Complete, in substantial case, $15 75

Fig. 300. 8 sizes	19 25
Fig. 302. Consisting of Stock 35 inches long and 5 sizes of Dies (right or left), and Guides, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch, all 27 threads. Complete, in substantial case	12 25

LIGHTNING SCREW PLATE.

FOR PLUMBERS' DRAWN BRASS PIPE.

These Dies cut a tapering thread for water or steam-tight fit on Plumbers' Drawn Brass Pipe, which is measured by its outside diameter.

Fig. 303. Consisting of Stock 35 inches long and 5 sizes of Dies (right or left), and Guides, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and $1\frac{1}{4}$ inch, complete, as above, in substantial case . . $12 25
The number of threads to the inch (pitch) is as follows: $5\text{-}8^{20}$, $3\text{-}4^{20}$, $7\text{-}8^{18}$, 1^{18}, $1\ 1\text{-}4^{18}$.
Parts, separately: Stock, $3.50; Dies, $1.50 each; Guides, $0.25 each.

PRICES OF PARTS OF THE GREEN RIVER SCREW PLATE.

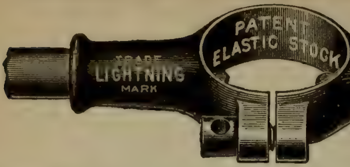


Fig. 304.

The cut shows Patent Elastic Stock used with all of "Green River" and "Lightning" Screw Plates, excepting the Full Mounted, Pipe and X Plates.

In ordering Elastic Stocks give lengths and if possible, state also for which "Fig."

PRICES OF PARTS OF ALL GREEN RIVER SCREW PLATES EXCEPT FIGS. 306 & 307.

Sizes.	Taps, Dies and Guides	Dies.	Taps.	Guides.	No. of Threads.
3-16	$1.77	$1.25	$0.45	$0.25	24
1-4	1.77	1.25	.45	.25	16, 18, 20
5-16	1.80	1.25	.50	.25	16, 18
3-8	2.08	1.50	.55	.25	14, 16, 18
7-16	2.11	1.50	.60	.25	12, 14, 16
1-2	2.17	1.50	.70	.25	12, 13, 14
9-16	2.33	1.60	.80	.25	12. 14
5-8	2.54	1.75	.90	.25	10, 11, 12
11-16	2.78	1.90	1.05	.25	11, 12
3-4	2.97	2.00	1.20	.25	10, 12
13-16	3.34	2.25	1.40	.25	10
7-8	3.71	2.50	1 60	.25	9, 10
15-16	4.08	2.75	1.80	.25	9
1	4.45	3.00	2.00	.25	8
1 1-8	5.10	3.50	2.25	.25	7, 8
1 1-4	5.81	4.00	2.60	.25	7
1 3-8	6.55	4.50	3.00	.25	6
1 1-2	7.35	5.00	3.50	.25	6

GREEN RIVER SCREW PLATES, FIGS. 306 AND 307.

Dies, all regular sizes, each, .	$1.00
Guides, each, ...	.20
Taps, (see table)	
Stock, ...	1.50

PRICES OF STOCKS FOR SETS FIGS. 306 TO 328.

Length of Stocks.	Price Each.	Diam. of Socket.	Figs. of sets in which contained.
10 in.	$1.50	1 5-16	306, 307
18 "	2.00	2 3-16	308, 309
22 "	2.00	2 3-16	310, 311, 312, 313. 325, 326, 327, 328
23 "	2.00	2 3-4	314, 315
29 "	2.00	2 3-4	316, 317, 318, 319, 320, 321, 325, 326
35 "	4.00	2 3-4	322, 323, 324, 327
53 "	6.00	3 7-16	328

These Dies and Taps and all Screw Plates (excepting Nos. 0 and X for wire sizes) will be sent 1-32 over-size (for rough iron) with threads V form, unless otherwise ordered. Left hand, extra price. All Dies stamped with a star are 1-32 inch over-size, V form of thread.

Can supply Screw Plates with *exact sizes* V, U. S. Standard, or Franklin Institute and Whitworth form of thread at regular prices. All parts of Screw Plates can be duplicated from stock.

In ordering Dies, Guides, Collets or Stocks for Screw Plates, care should be taken to give number, letter or figure *of set for which parts are wanted.*

PRICES OF PARTS OF THE LIGHTNING SCREW PLATE.

FOR SETS FIGS. 242 TO 246.

	Sizes.	Taps, Dies & Collets.	Dies.	Taps.	Collets.	No of Threads.
For No. AA. B, C, K, L and sizes 1-4 to 3-4 of No. D. & B. Plate.	3-16	$1.77	$1.00	$0.45	$0.50	24
	1-4	1.77	1.00	.45	.50	16. 18, 20
	5-16	1.80	1.00	.50	.50	16, 18
	3-8	1.98	1.15	.55	.50	14, 16 18
	7-16	2.16	1.30	.60	.50	12, 14, 16
	1-2	2.42	1.50	.70	.50	12, 13, 14
	9-16	2.58	1.60	.80	.50	12, 14
	5-8	2.79	1 75	.90	.50	10, 11, 12
	11-16	3.03	1.90	1.05	.50	11, 12
	3-4	3.22	2.00	1.20	.50	10, 12
	13-16	3.59	2.25	1.40	.50	10
	7-8	3.96	2.50	1.60	.50	9, 10
	15 16	4.33	2.75	1.80	.50	9
	1	4.70	3.00	2.00	.50	8

	Sizes.	Taps, Dies & Collets.	Dies.	Taps.	Collets.	No of Threads.
For No. D and 7-8 to 1 1-2 sizes in D. & B.	7-8	$4 46	$2.50	$1.60	$1.00	9, 10
	15-16	4.83	2.75	1.80	1.00	9
	1	5.20	3.00	2.00	1.00	8
	1 1-8	5.85	3.50	2.25	1.00	7, 8,
	1 1-4	6.56	4.00	2.60	1.00	7
	1 3-8	7.30	4.50	3.00	1.00	6
	1 1-2	8.10	5.00	3.50	1.00	6

These Dies and Taps will be sent 1-32 over-size (for rough iron), with threads type V form. unless otherwise ordered. Left hand, extra price.

PRICES OF STOCKS FOR SETS. FIGS. 242 TO 246.

Length of Stocks.	Price Each.	Diam. of Socket.	Figs. of sets in which contained.
18 in.	$2.00	2 3-16	251, 252, 264, 265, 266, 267
23 "	2.00	2 3-4	253, 254, 255, 256, 264, 265
29 "	2.00	2 3-4	203, 204, 257. 258. 259, 260. 261. 262, 266, 267

Give lengths and, if possible, state also for which Fig.

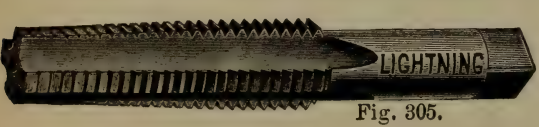


Fig. 305.

Form of *Hand Nut Taps* furnished with all the LIGHTNING and GREEN RIVER Screw Plates (except No. 0 and "X" plates for wire sizes). For prices see page 78, for list and sizes.

THE GREEN RIVER SCREW PLATES.

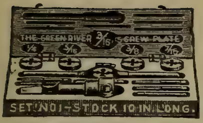

THE GREEN RIVER 3/16 SCREW PLATE
1/4 5/16 3/8 7/16
SET NO1 STOCK 10 IN LONG.

Fig. 306-307.

Fig. 306. SET No. 1. 3-16 to 7-16 inch. Stock 10 inches long. With both Stock and Brace Holder for Dies. 5 sizes. 3-16, 1-4, 5-16, 3-8, 7-16 inch Taps, Dies and Guides. Complete, in case . . $8.75

Diameter of Dies in this set, 1 5-16 inch.

Brace Holders (or Lathe Holders) to take Dies in this set, each. $0.75

Fig. 307. SET No. 1, as above, with Adjustable Tap Wrench $11.10

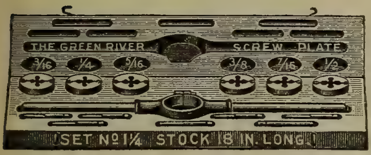

THE GREEN RIVER SCREW PLATE
3/16 1/4 5/16 3/8 7/16 1/2
SET Nº 1¼ STOCK 18 IN LONG.

Fig. 308-309.

Fig. 308. SET No. 1 1-4. 3-16 to 1-2 in. Stock 18 in. long. 6 sizes, 3-16, 1-4, 5-16, 3-8, 7-16, 1-2 in. Taps, Dies, and Guides. Complete, in case, ... $11.00

Diameter of Dies in this set, 2 3-16 in.

Fig. 309. SET No. 1 1-4, as above, with Adjustable Tap Wrench, ... $13.35

Fig. 310. 1-4 to 3-4 inch. Stock 22 inches long. 5 sizes, 1-4, 3-8, 1-2, 5-8, 3-4 inch Taps. Dies and Guides. Complete, in case, ... $10.25

Diameter of Dies in this set, 2 3-16 inches.

Fig. 311. Same as Fig. 310, with Adjustable Tap Wrench, ... $13.25

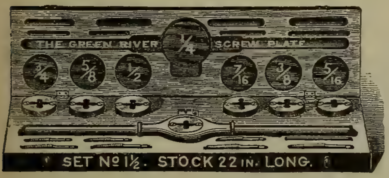

THE GREEN RIVER 1/4 SCREW PLATE
3/4 5/8 1/2 7/16 3/8 5/16
SET Nº 1½. STOCK 22 IN. LONG.

Fig. 312-313.

Fig. 312. SET No. 1 1-2. 1-4 to 3-4 inch. Stock 22 inches long. 7 sizes, 1-4, 5-16, 3-8, 7-16, 1 2, 5-8, 3-4 in. Taps, Dies and Guides. Complete, in case, . $13.00

Diameter of Dies in this set, 2 3-16 inches.

Fig. 313. SET No. 1 1-2. 1-4 to 3-4 inch, with Adjustable Tap Wrench No. 3. 7 sizes, 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4, inch Taps, Dies and Guides. Stock 22 in. long. Complete, in case, ... $16.00

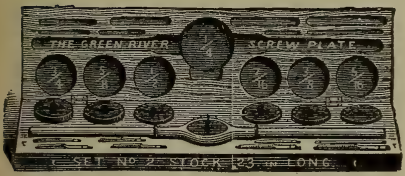

THE GREEN RIVER 1/4 SCREW PLATE
3/4 5/8 1/2 7/16 3/8 5/16
SET Nº 2 STOCK 23 IN LONG.

Fig. 314-315.

Fig. 314. SET No. 2. 1-4 to 3-4 inch. Stock 23 in. long. 7 sizes, 1-4, 5-16, 3-8, 7-16, 1-2, 5-8, 3-4 inch Taps, Dies and Guides.

Complete, in case, ... $15.25

Diameter of Dies in this set, 2 3-4 in.

Fig. 315. SET No. 2, as above, with Adjustable Tap Wrench, ... $18.25

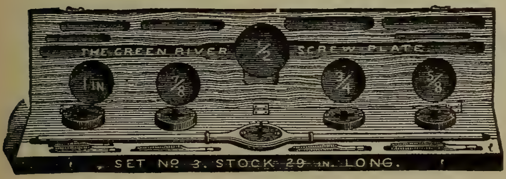

THE GREEN RIVER 1/2 SCREW PLATE
1 IN 7/8 3/4 5/8
SET Nº 3. STOCK 29 IN. LONG.

Fig. 316-317.

Fig. 316. SET No. 3. 1-2 to 1 inch. Stock 29 inches long. 5 sizes, 1-2, 5-8, 3-4, 7-8, 1 inch Taps, Dies and Guides. Complete, in case, ... $17.00

Diameter of Dies in this set, 2 3-4 in.

Fig. 317. SET No. 3, as above, with Adjustable Tap Wrench, . . $21.00

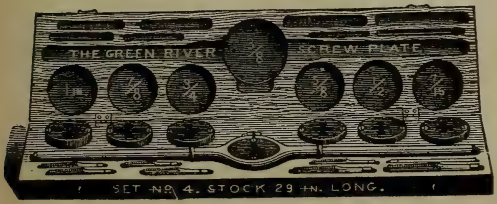

THE GREEN RIVER 3/8 SCREW PLATE
1 IN 7/8 3/4 5/8 1/2 7/16
SET Nº 4. STOCK 29 IN. LONG.

Fig. 318-319.

Fig. 318. SET No. 4. 3-8 to 1 inch. Stock 29 inches long. 7 sizes, 3-8, 7-16, 1-2 5-8, 3-4, 7-8, 1 inch Taps, Dies and Guides. Complete, in cases, ... $20.00

Diameter of Dies in this set, 2 3-4 in.

Fig. 319. SET No. 4. 3-8 to 1 in., with Adjustable Tap Wrench, 7 sizes, 3-8 7-16, 1-2, 5-8, 3-4, 7-8. 1 in. Taps, Dies and Guides. Stock 29 in. long. Complete, in case, $24.00

Will send above sets 1-32 over-size, V thread, unless otherwise ordered.

THE GREEN RIVER SCREW PLATES.

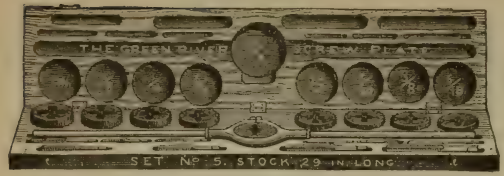


Fig. 320 and 321.

Fig. 320. Set No. 5. $\frac{1}{4}$ to 1 in. Stock 29 inches long. 9 sizes, $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch Taps, Dies and Guides. Complete, in case $23.00

Diameter of Dies in this set $2\frac{3}{4}$ in.

Fig. 321. Set No. 5, as above, with Two Adjustable Tap Wrenches, $29.35

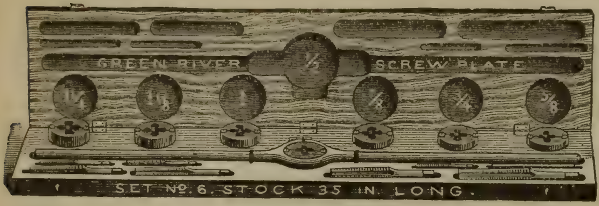


Fig. 322 to 324.

Fig. 322. Set No. 6. $\frac{1}{2}$ to $1\frac{1}{4}$ inch. Stock 35 inches long. 7 sizes, $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Guides. Complete, in case . . $26.00

Diameter of Dies in this set, $2\frac{3}{4}$ in.

Fig. 323. Set No. 7. $\frac{3}{8}$ to $1\frac{1}{4}$ inch. Stock 35 inches long. 9 sizes, $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Guides. Complete, in case. . . $30.00
Diameter of Dies in this set, $2\frac{3}{4}$ inch.

Fig. 324. Set No. 8. $\frac{1}{4}$ to $1\frac{1}{4}$ inch. Stock 35 in. long. 11 sizes, $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Guides. Complete, in case . . $34.00
Diameter of Dies in this set, $2\frac{3}{4}$ in.

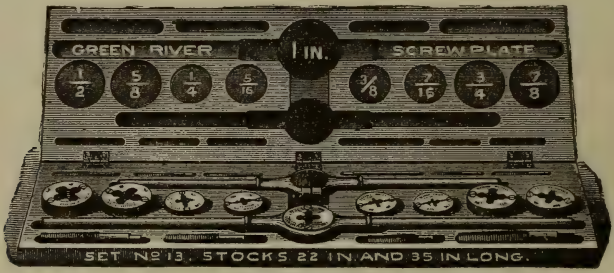


Fig. 325 to 327.

Fig. 325. Set No. 13. $\frac{1}{4}$ to 1 inch, 9 sizes. Two stocks, one 22 inches and one 29 inches long, and $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 inch Taps, Dies and Guides. Complete, in case $25.00
Diameter of Dies in this set, $\frac{1}{2}$ in. and under, $2\frac{3}{16}$ inches. $\frac{5}{8}$ in. and over, $2\frac{3}{4}$ in.

Fig. 326. Set No. 13, as above, with two Adjustable Tap Wrenches . . $31.35

Fig. 327. Set No. 16. $\frac{1}{4}$ to $1\frac{1}{4}$ inch, 11 sizes. Two stocks, one 22 inches long and one 35 inches long, and $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ inch Taps, Dies and Guides. Complete, in case $36.00
Diameter of Dies in this set, $\frac{1}{2}$ in. and under, $2\frac{3}{16}$ inches. $\frac{5}{8}$ in. and over, $2\frac{3}{4}$ in.

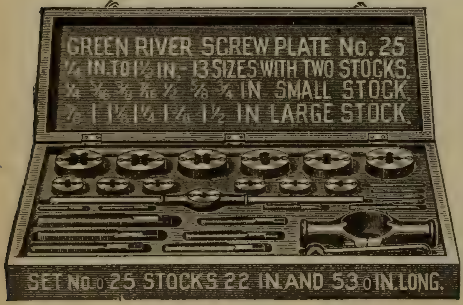

GREEN RIVER SCREW PLATE No. 25
¼ IN. TO 1½ IN. - 13 SIZES WITH TWO STOCKS.
¼ 5/16 3/8 7/16 ½ 5/8 ¾ IN. SMALL STOCK
7/8 1 1⅛ 1¼ 1⅜ 1½ IN. LARGE STOCK.
SET No. 25 STOCKS 22 IN. AND 53 IN. LONG.

Fig. 328.

Fig. 328. Set No. 25. $\frac{1}{4}$ to $1\frac{1}{2}$ inch, 13 sizes. Two stocks, one 22 inches long and one 53 inches long, and $\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{7}{16}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$ $\frac{7}{8}$ 1 $1\frac{1}{8}$ $1\frac{1}{4}$ $1\frac{3}{8}$ $1\frac{1}{2}$ inch Taps, Dies and Guides. Complete, in case $53.00

Diameter of Dies in this set, $\frac{3}{4}$ in. and under, $2\frac{3}{16}$ inches.

Diameter of Dies in this set, $\frac{7}{8}$ in. and over, $3\frac{7}{16}$ in.

Will send above sets $\frac{1}{32}$ over-size, V Thread, unless otherwise ordered.

"LITTLE GIANT" SCREW PLATES.

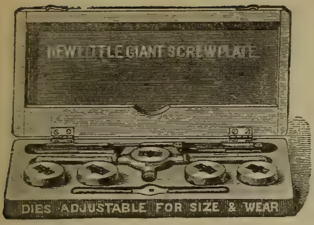

NEW LITTLE GIANT SCREW PLATE
DIES ADJUSTABLE FOR SIZE & WEAR

Fig. 329.

FIG. 329.

WIRE SIZES.

Has Stock, Tap Wrench, Taps, Dies and Collets.

Cuts $\frac{1}{8}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{7}{32}$ $\frac{1}{4}$ . . . . $ 6.50

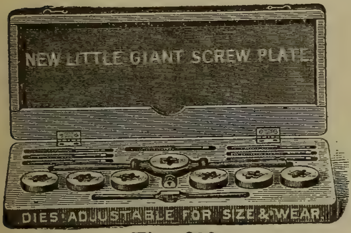

NEW LITTLE GIANT SCREW PLATE
DIES ADJUSTABLE FOR SIZE & WEAR

Fig. 330.

FIG. 330.

WIRE SIZES.

Has Stock, Tap Wrench, Taps, Dies and Collets.

Cuts $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{3}{16}$ $\frac{7}{32}$ $\frac{1}{4}$ . . . . . . $ 8.00

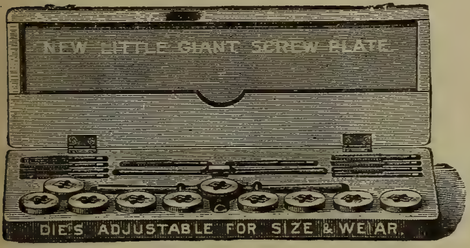

NEW LITTLE GIANT SCREW PLATE
DIES ADJUSTABLE FOR SIZE & WEAR

Fig. 331.

FIG. 331.

WIRE SIZES.

Has Stock, Tap Wrench, Taps, Dies and Collets.

Cuts $\frac{7}{64}$ $\frac{1}{8}$ $\frac{9}{64}$ $\frac{5}{32}$ $\frac{11}{64}$ $\frac{3}{16}$ $\frac{13}{64}$ $\frac{7}{32}$ $\frac{15}{64}$ $\frac{1}{4}$ $10.50

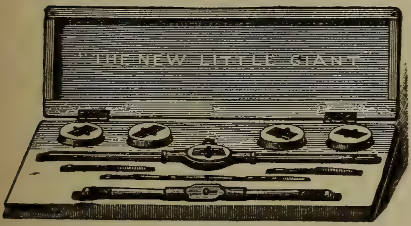


Fig. 332

FIG. 332.

WITH ADJUSTABLE TAP WRENCH.

Complete in Box.

Cuts $\frac{1}{4}^{20}$ $\frac{5}{16}^{18}$ $\frac{3}{8}^{16}$ $\frac{7}{16}^{14}$ $\frac{1}{2}^{12}$ $12.00

Length of stock, 14½ inches.

Collets are 2 inches in diameter.

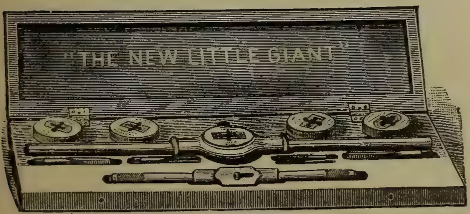


Fig. 333.

FIG. 333.

WITH ADJUSTABLE TAP WRENCH.

Complete in Box.

Cuts $\frac{1}{4}^{20}$ $\frac{3}{8}^{16}$ $\frac{1}{2}^{12}$ $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ . . . $13.50

Length of stock, 23 inches.

Diameter of Collets, 2¾ inches.

Will send above sets over size V thread unless otherwise ordered.

“LITTLE GIANT” SCREW PLATES.

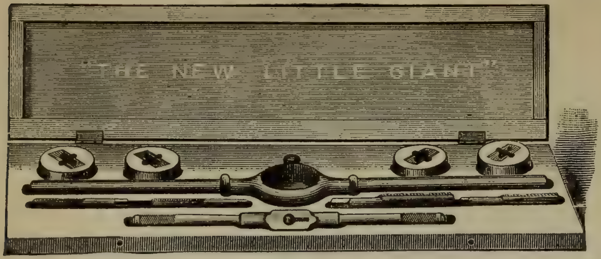


Fig. 334.

FIG. 334.

With Adjustable Tap Wrench, Complete in Box.

Cuts $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ $\frac{7}{8}^{9}$ 1^{8} $15.00

Length of stock, 26 inches.

Diameter of collets, $2\frac{3}{4}$ inches.

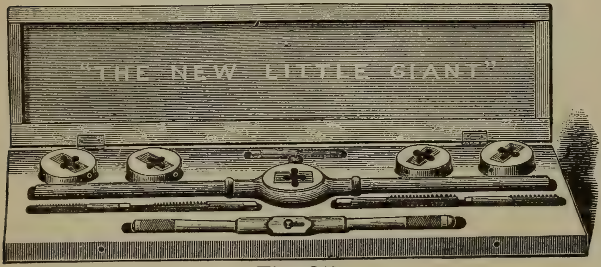


Fig. 335.

FIG. 335.

With Adjustable Tap Wrench, Complete in Box.

Cuts $\frac{1}{2}^{12}$ $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ $\frac{7}{8}^{9}$ 1^{8} $17.50

Length of stock, 26 inches.

Diameter of collets, $2\frac{3}{4}$ inches.

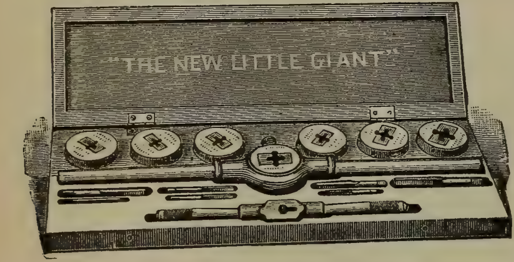


Fig. 336.

FIG. 336.

With Adjustable Tap Wrench, Complete in Box.

Cuts $\frac{1}{4}^{20}$ $\frac{5}{16}^{18}$ $\frac{3}{8}^{16}$ $\frac{7}{16}^{14}$ $\frac{1}{2}^{12}$ $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$

$16.00

Length of stock, 23 inches.

Diameter of collets, $2\frac{3}{4}$ inches.

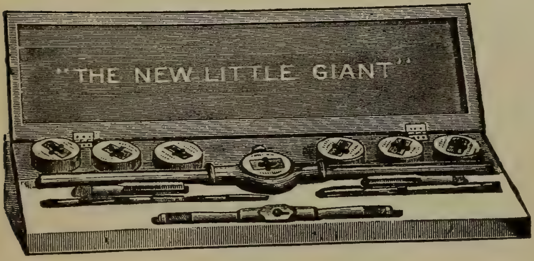


Fig. 337.

FIG. 337.

With Adjustable Tap Wrench, Complete in Box.

Cuts $\frac{3}{8}^{16}$ $\frac{7}{16}^{14}$ $\frac{1}{2}^{12}$ $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ $\frac{7}{8}^{9}$ 1^{8}

$22.00

Length of stock, 26 inches.

Diameter of collets, $2\frac{3}{4}$ inches.

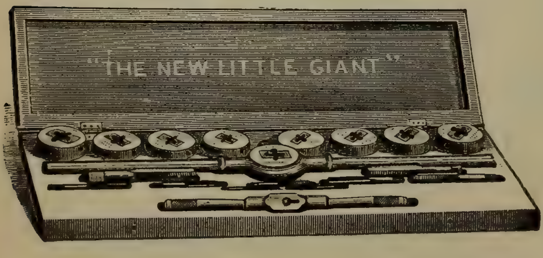


Fig. 338.

FIG. 338.

With Two Adjustable Tap Wrenches, Complete in Box.

Cuts $\frac{1}{4}^{20}$ $\frac{5}{16}^{18}$ $\frac{3}{8}^{16}$ $\frac{7}{16}^{14}$ $\frac{1}{2}^{12}$ $\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ $\frac{7}{8}^{9}$ 1^{8} $25.50

Length of stock, 26 inches.

Diameter of collets, $2\frac{3}{4}$ inches.

Will send above sets over-size, V Thread, unless otherwise ordered.

"LITTLE GIANT" SCREW PLATES.

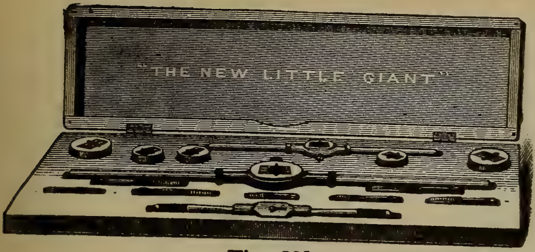


Fig. 339.

FIG. 339.

With Adjustable Tap Wrench.
Complete in Box.

Cuts $\frac{1}{4}^{20}$, $\frac{5}{16}^{18}$. $\frac{3}{8}^{16}$, $\frac{7}{16}^{14}$, $\frac{1}{2}^{12}$, $\frac{5}{8}^{11}$, $\frac{3}{4}^{10}$ $18.00

Has two stocks: 14½ inches long for the first four sizes; 26 inches long for the larger sizes. Diameter of Collets, 2 and 2¾ inches.

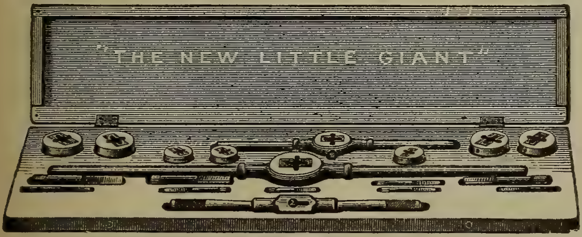


Fig. 340.

FIG. 340.

With
Two Adjustable Tap Wrenches.
Complete in box.

Cuts $\frac{1}{4}^{20}$, $\frac{5}{16}^{18}$, $\frac{3}{8}^{16}$, $\frac{7}{16}^{14}$, $\frac{1}{2}^{12}$, $\frac{5}{8}^{11}$, $\frac{3}{4}^{10}$, $\frac{7}{8}^{9}$, 1^{8} $27.50

Has two stocks: 14½ inches long for the first four sizes; 29 inches long for the larger sizes. Diameter of Collets, 2 and 2¾ inches.

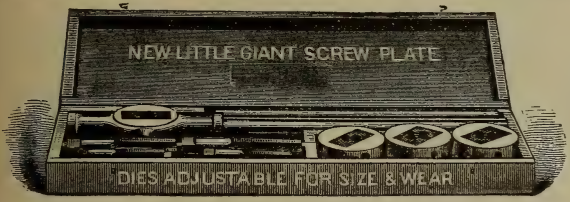

NEW LITTLE GIANT SCREW PLATE
DIES ADJUSTABLE FOR SIZE & WEAR

Fig. 341.

FIG. 341.
With Adjustable Tap Wrench.
Cuts $\frac{5}{8}^{11}$, $\frac{3}{4}^{10}$, $\frac{7}{8}^{9}$, 1^{8}, $1\frac{1}{8}^{7}$, $1\frac{1}{4}^{7}$, ... $35.00

FIG. 342.
With Adjustable Tap Wrench.
Cuts $\frac{7}{8}^{9}$, 1^{8}, $1\frac{1}{8}^{7}$, $1\frac{1}{4}^{7}$, $1\frac{3}{8}^{6}$, $1\frac{1}{2}^{6}$, ... $45.00

FIG. 343.

With Adjustable Tap Wrench. Cuts $1\frac{1}{8}^{7}$, $1\frac{1}{4}^{7}$, $1\frac{3}{8}^{6}$, $1\frac{1}{2}^{6}$ $37.50

Fig. 341 has stock 40 inches long. Figs. 342 and 343 have stocks 52 ins. long. Diameter of Collets, No. 20, 4 inches. Diameter of Collets, Nos. 25 and 30, 4½ inches.

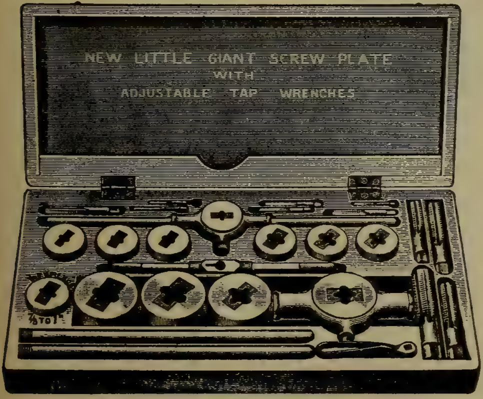


Fig. 344.

FIG. 344.

With Two Adjustable Tap Wrenches.
Complete in Box.

Cuts $\frac{1}{4}^{20}$, $\frac{5}{16}^{18}$, $\frac{3}{8}^{16}$, $\frac{7}{16}^{14}$, $\frac{1}{2}^{12}$, $\frac{5}{8}^{11}$, $\frac{3}{4}^{10}$, $\frac{7}{8}^{9}$, 1^{8}, $1\frac{1}{8}^{7}$, $1\frac{1}{4}^{7}$. $40.00

Has two stocks: 23 inches long for the first seven sizes; 40 inches long for the largest sizes. Diameter of Collets, 2¾ and 4 inches.

Will send above sets over-size V thread unless otherwise ordered.

"LITTLE GIANT" SCREW PLATES.

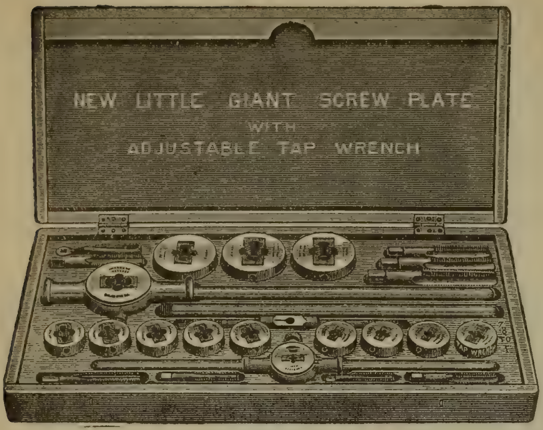

NEW LITTLE GIANT SCREW PLATE
WITH
ADJUSTABLE TAP WRENCH

Fig. 345.

ASSORTMENT NO. 50.

WITH TWO ADJUSTABLE TAP WRENCHES COMPLETE IN BOX.

Cuts $\frac{1}{4}^{20}$ $\frac{5}{16}^{18}$ $\frac{3}{8}^{16}$ $\frac{7}{16}^{14}$ $\frac{1}{2}^{12}$
$\frac{5}{8}^{11}$ $\frac{3}{4}^{10}$ $\frac{7}{8}^{9}$ 1^{8} $1\frac{1}{8}^{7}$
$1\frac{1}{4}^{7}$ $1\frac{3}{8}^{6}$ $1\frac{1}{2}^{6}$ $60.00

Has two stocks.

26 inches long for the first nine sizes.

52 inches long for the largest sizes.

Diameter of Collets, 2¾ and 4½ inches.

ADJUSTABLE TAP WRENCHES.

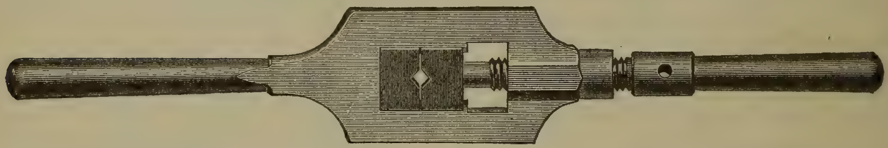


Fig. 346.

		PRICE EACH
No. 0.	5 inches long; fitting Taps $\frac{1}{16}$ to $\frac{3}{16}$	$1.00
" 1.	7½ inches long; fitting Taps $\frac{1}{8}$ to $\frac{3}{8}$	1.50
" 1½.	10 inches long; fitting Taps $\frac{3}{16}$ to $\frac{1}{2}$	2.00
" 2.	12 inches long; fitting Taps $\frac{1}{4}$ to $\frac{5}{8}$	2.00
" 3.	14 inches long; fitting Taps $\frac{1}{2}$ to $\frac{3}{4}$	3.00
" 4.	19 inches long; fitting Taps $\frac{3}{4}$ to $1\frac{1}{8}$	4.00
" 5.	24 inches long; fitting Taps $\frac{7}{8}$ to $1\frac{1}{2}$	5.25

ADJUSTABLE TAP WRENCHES.

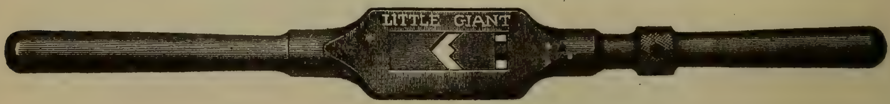


Fig. 347.

No. 1	Holds Taps to No. 14 or $\frac{13}{64}$	$0.50
" 2	" " " 16 " $\frac{9}{32}$	.75
" 3	" " " 24 " $\frac{7}{16}$	1.00
" 0	Length 7 inches for Taps, $\frac{1}{16}$ to $\frac{1}{4}$	1.50
" 5	" 10½ " " " $\frac{3}{16}$ " $\frac{1}{2}$	2.00
" 6	" 15 " " " $\frac{1}{4}$ " $\frac{3}{4}$	2.50
" 7	" 20 " " " $\frac{3}{8}$ " 1	3.50
" 8	" 42 " " " $\frac{3}{4}$ " $1\frac{1}{2}$	7.00

"LITTLE GIANT" FULL STOCKED SCREW PLATES.

PRICE LIST OF PARTS.

Size	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$
Die	$1.00	1.00	1.00	1.25	1.25	1.50	1.50	1.75	1.75
Guide	.20	.20	.20	.20	.20	.20	.20	.20	.20
Stock	.50	.50	.50	.50	.75	.75	.75	.75	.75
Tap	.35	.45	.50	.55	.60	.70	.80	.90	1.05

Size	$\frac{3}{4}$	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$
Die	$2.00	2.00	2.75	2.75	2.75	4.00	4.00	5.00	5.00
Guide	.20	.20	.20	.20	.20	.50	.50	.50	.50
Stock	.75	1.00	1.00	1.00	1.00	1.75	1.75	2.25	2.25
Tap	1.20	1.40	1.60	1.80	2.00	2.25	2.60	3.00	3.50

PRICE LIST OF COLLETS.

Number of Die	1	2	3	4	5
Size of Dies	$\frac{3}{64}$ to $\frac{1}{4}$	$\frac{1}{4}$ to $\frac{1}{2}$	$\frac{1}{4}$ to 1	$\frac{5}{8}$ to $1\frac{1}{4}$	$1\frac{1}{8}$ to $1\frac{1}{2}$
Diameter of Collet, inches	$1\frac{1}{4}$	2	$2\frac{3}{4}$	4	$4\frac{1}{2}$
Price of Guide	$0.15	.20	.20	.50	.50
Price of Cap	.25	.30	.30	1.00	1.00
Price, complete	.40	.50	.50	1.50	1.50

PRICE LIST OF STOCKS.

Number of Stock	1	2	3	4	5	6	7
Length of Stock, in inches	$7\frac{1}{2}$	$14\frac{1}{2}$	23	26	29	40	52
For Diameter of Collets	$1\frac{1}{4}$	2	$2\frac{3}{4}$	$2\frac{3}{4}$	$2\frac{3}{4}$	4	$4\frac{1}{2}$
Price	$0.70	1.50	2.00	2.00	2.00	6.00	8.00

MACHINISTS' SCREW PLATES.

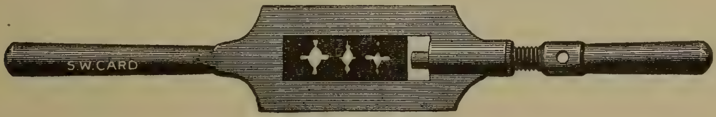


Fig. 348.

No. $1\frac{1}{2}$. 9 inches long, 4 pair Dies, 4 Taps. Cutting Nos. 6, 32; 8, 30; 10, 24; 14, 20	$3.25
No. $11\frac{1}{2}$. 9 inches long, 4 pair Dies, 4 Taps. Cutting, $\frac{3}{32}$, 32; $\frac{5}{32}$, 30; $\frac{3}{16}$, 24; $\frac{1}{4}$, 20	3.25
No. $111\frac{1}{2}$. 9 inches long, 3 pair Dies, 4 Taps Cutting Nos. 14, 20; 16, 18; 18, 18; 20, 16;	3.40

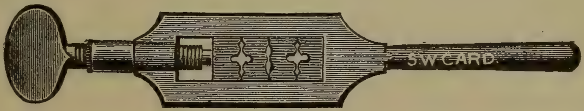


Fig. 349.

No. 00. 6 inches long, 4 pair Dies, 4 Taps. Cutting Nos. 2, 64; 3, 56; 4, 48; 6, 40	$2.50
No. 00 A. 6 inches long, 3 pair Dies, 4 Taps. Cutting Nos. 4, 36; 6, 32; 8, 32; 10, 24	2.50
No. 0. $7\frac{1}{2}$ inches long, 4 pair Dies, 4 Taps. Cutting Nos. 4, 48; 6, 40; 10, 32; 14, 24	3.00
No. 0 N. $7\frac{1}{2}$ inches long, 4 pair Dies, 4 Taps. Cutting, $\frac{3}{16}$, 24; $\frac{7}{32}$, 24; $\frac{1}{4}$, 20; $\frac{9}{32}$, 18	3.25

These Plates are furnished with Plug Machine Screw Taps.

MACHINISTS' SCREW PLATES.

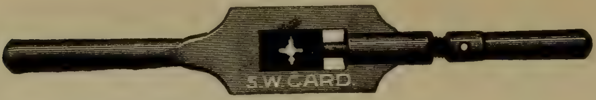


Fig. 350.

No. $2\frac{1}{2}$.	$11\frac{1}{2}$ inches long, 3 pair Dies, 3 Taps; cutting $\frac{1}{4}$, 20; $\frac{3}{8}$, 16; $\frac{1}{2}$, 12	$5.00
No. $2\frac{1}{2}$ A.	$11\frac{1}{2}$ inches long, 3 pair Dies, 3 Taps; cutting $\frac{1}{4}$. 20; $\frac{5}{16}$, 18; $\frac{3}{8}$. 16	4.80
No. $2\frac{1}{2}$ C.	$11\frac{1}{2}$ inches long, 5 pair Dies, 5 Taps; cutting $\frac{1}{4}$, 20; $\frac{5}{16}$, 18; $\frac{3}{8}$, 16 $\frac{7}{16}$, 14; $\frac{1}{2}$, 12	7.50
No. 3.	14 inches long, 3 pair Dies, 3 Taps; cutting $\frac{3}{8}$, 16; $\frac{7}{16}$, 14; $\frac{1}{2}$, 12	5.50
No. 3 A.	14 inches long, 3 pair Dies, 3 Taps; cutting $\frac{3}{8}$, 16; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11	5.80
No. 3 D.	14 inches long, 6 pair Dies, 6 Taps; cutting $\frac{1}{4}$, 20; $\frac{5}{16}$, 18; $\frac{3}{8}$, 16; $\frac{7}{16}$, 14; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11	9 60
No. 4 B.	19 inches long, 7 pair Dies, 7 Taps; cutting $\frac{1}{4}$, 20; $\frac{5}{16}$, 18; $\frac{3}{8}$, 16; $\frac{7}{16}$ 14; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11; $\frac{3}{4}$, 10	13.50

Machinists' Taper Hand Taps are sent with the above Plates.

BLACKSMITHS' SCREW PLATES.

These Plates are the same as our Machinists' Screw Plates, illustrated above, except that we furnish them with Blacksmiths' Taper Taps.

No. $2\frac{1}{2}$ D.	$11\frac{1}{2}$ inches long, 3 pair Dies and 3 Taps; cutting $\frac{1}{4}$, 20; $\frac{5}{16}$. 18; $\frac{3}{8}$, 16	$4.65
No. $2\frac{1}{2}$ E.	$11\frac{1}{2}$ inches long, 3 pair Dies and 3 Taps; cutting $\frac{1}{4}$, 20; $\frac{3}{8}$, 16; $\frac{1}{2}$, 12	4.85
No. $2\frac{1}{2}$ F.	$11\frac{1}{2}$ inches long, 5 pair Dies and 5 Taps; cutting $\frac{1}{4}$, 20; $\frac{5}{16}$. 18; $\frac{3}{8}$, 16; $\frac{7}{16}$, 14; $\frac{1}{2}$, 12	6.85
No. 3 E.	14 inches long, 3 pair Dies and 3 Taps; cutting $\frac{3}{8}$, 16; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11	5.10
No. 3 F.	14 inches long, 4 pair Dies and 4 Taps; cutting $\frac{3}{8}$, 16; $\frac{7}{16}$, 14; $\frac{1}{2}$, 12; $\frac{5}{8}$, 11	6.25
No. 4.	19 inches long, 3 pair Dies and 4 Taps; cutting $\frac{3}{8}$, 16; $\frac{1}{2}$, 12; $\frac{5}{8}$, 12; $\frac{3}{4}$, 10	6.00
No. 7.	27 inches long, 3 pair Dies and 4 Taps; cutting $\frac{1}{2}$, 12; $\frac{5}{8}$, 12; $\frac{3}{4}$, 10; 1, 8	8.25
No. 8.	30 inches long, 3 pair Dies and 6 Taps; cutting $\frac{3}{4}$, 10; $\frac{7}{8}$, 10; $\frac{7}{8}$, 9; 1, 9; $1\frac{1}{8}$, 8; $1\frac{1}{4}$, 8	10.50

ARMSTRONG'S ADJUSTABLE STOCKS ARRANGED WITH BOLT DIES.

AND WITH AND WITHOUT HAND TAPS, AND WITH DIES FOR THREADING PIPE.

SIZE No. 1 STOCK.

No. 1	Stock,	7 Bolt Dies, ¼ to ¾	$15.00
“ 1	“	4 Pipe and 7 Bolt Dies	20.00
“ 1	“	7 Bolt Dies, 7 Taps ¼ to ¾	20.00
“ 1	“	4 Pipe Dies, 7 Bolt Dies, 7 Taps	24.80

Sizes furnished in Bolt Dies, ¼, 5/16, ⅜, 7/16, ½, ⅝, ¾. This Stock will not take Bolt sizes smaller than ¼-inch nor larger than ¾-inch.

Sizes furnished in PIPE DIES, ⅛, ¼, ⅜, ½ inch.

The above *Assortments put up in Cases.*

SIZE No. 2 STOCK.

No. 2	Stock,	7 Bolt Dies, ½ to 1¼ inch	$20.00
“ 2	“	7 Bolt Dies, ½ to 1¼ inch, and 5 Pipe Dies, ¼ to 1 inch	28.50
“ 2	“	7 Bolt Dies, 7 Taps, ½ to 1¼ inch,	30.00
“ 2	“	7 Bolt Dies, 7 Taps, ½ to 1¼ inch, and 5 Pipe Dies ¼ to 1 inch	38.75

PRICES OF PARTS OF ARMSTRONG'S STOCKS AND DIES.

STOCKS, WITH SCREWS, HANDLES AND WRENCH.

No. Stock,	0	1	2	2½	3	6	7
Price,	$1.50	$3.25	$4.00	$4.50	$7.00	$25.00	$30.00
Takes Bolt Dies	¼ to ¾	¼ to ¾	½ to 1¼		—	—	—
“ Pipe “	—	⅛ to ½	⅛ to 1	½ to 1¼	½ to 2	2½ to 3	2½ to 4
“ Brass Pipe Dies,	—	⅝ to 1¼	—	—	—	—	—

PRICE OF DIES FOR ARMSTRONG'S STOCKS.

No. 0.	Dies ¼, 5/16, ⅜, 7/16, ½, ⅝, or ¾ complete with Collet,	each,	$1.95
“ 0.	“ ¼, 5/16, ⅜, 7/16, ½, ⅝, or ¾, without Collet,	“	1.00
“ 1.	“ ¼, 5/16, ⅜, or 7/16, Right Hand	“	1.50
“ 1.	“ ½, ⅝, or ¾, “ “	“	1.75
“ 2.	“ ½ or ⅝, “ “	“	2.00
“ 2.	“ ¾, ⅞ or 1, “ “	“	2.00
“ 2.	“ 1⅛, or 1¼, “ “	“	2.25

Bolt Dies, Left Hand, will be furnished at same price.

PRICES FOR PARTS OF DIES FOR ARMSTRONG'S STOCKS.

Either No. 1 or No. 2 half of No. 1 Die for pipe,	$0.75
“ “ 1 “ “ 2 “ “ 1 “ bolt,	0.90
“ “ 1 “ “ 2 “ “ 2 “ pipe,	0.90
“ “ 1 “ “ 2 “ “ 2 “ brass,	1.25
“ “ 1 “ “ 2 “ “ 2 “ bolt,	1.25
“ A “ B “ “ 2½ “ pipe,	1.75
“ “ 1 “ “ 2 “ “ 3 “ “	2.25
“ A “ B “ “ 6 “ “	8.00
“ A, B, C or D quarter of No. 7 “ “	5.00

When ordering, please state which part of Die is wanted.

BUSHINGS FOR ARMSTRONG'S STOCKS.

Stock No.	1	2	2½	3	6	7
Price, each,	$0.20	$0.25	$0.40	$0.50	$1.00	$1.50

No. 0 Collets without Dies, $0.95.

COLLAR SCREWS.

Stock No.	1	2	2½	3	6	7
Price, each,	$0.12	$0.12	$0.15	$0.15	$0.25	$0.25

ADJUSTING SCREWS.

Stock No.	1	2	2½	3	6	7
Price, each,	$0.10	$0.10	$0.15	$0.15	$0.20	$0.20.

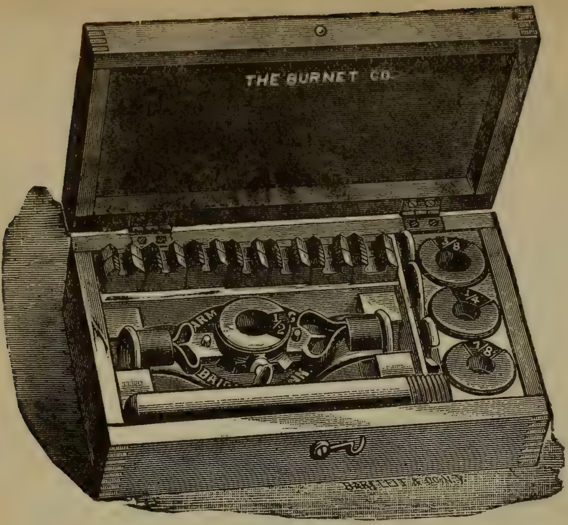

THE BURNET CO.

Fig. 351.

ARMSTRONG'S ADJUSTABLE STOCK AND DIES.

FOR THREADING PIPE SIZE NO. 1.

No. 1 Stock, 4 Right hand Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$, each . . $9.00

No. 1 Stock, 4 each Right and Left Pipe Dies, $\frac{1}{8}$ to $\frac{1}{2}$. 14.00

This Stock will also take Bolt Dies as follows:

$\frac{1}{4}$ $\frac{5}{16}$ $\frac{3}{8}$ $\frac{1}{2}$ $\frac{5}{8}$ $\frac{3}{4}$

SIZE NO. 2.

No. 2 Stock 5 Pipe Dies, Right, $\frac{1}{4}$ to 1	$12.00
No. 2 Stock 6 Pipe Dies, Right, $\frac{1}{8}$ to 1	14.00
No. 2 Stock 5 Pipe Dies, Right *and* Left, $\frac{1}{4}$ to 1	20.00
No. 2 Stock 6 Pipe Dies, Right *and* Left, $\frac{1}{8}$ to 1	23.00

This Stock will also take Bolt Dies, as follows: $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$; and Brass Dies, as follows: $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{4}$.

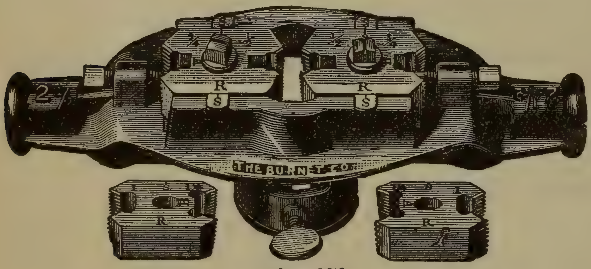

THE BURNET CO.

Fig. 352.

SIZE NO. 2 1-2. FOR THREADING PIPE.

No. $2\frac{1}{2}$ Stock, 4 Dies, cutting $\frac{1}{2}$, $\frac{3}{4}$, 1 and $1\frac{1}{4}$ in. Right Hand $12.00

No. $2\frac{1}{2}$ Stock and Dies, cutting $\frac{1}{2}$ to $1\frac{1}{4}$ in. Right and Left 18 00

PRICE OF EXTRA PIPE DIES FOR ABOVE NOS. 1, 2 AND 2 1-2 PIPE STOCKS.

No. 1.	For pipe $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$ or $\frac{1}{2}$, either Right or Left	Each,	$1.25
No. 2.	For pipe $\frac{1}{8}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{3}{4}$ or 1, Right or Left	"	1.50
No. 2.	For brass pipe $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 or $1\frac{1}{4}$, Right or Left	"	2.00
No. $2\frac{1}{2}$.	For pipe, double ends, $\frac{1}{2}$ x $\frac{3}{4}$ or 1 x $1\frac{1}{4}$, either Right or Left	"	3.25

Prices for Dies quoted mean set of two pieces numbered 1 and 2.

ARMSTRONG'S ADJUSTABLE STOCK, NO. 3, AND PIPE DIES.

No. 3 Stock, 3 sizes Pipe Dies, 1¼ to 2, Right,	$20.00
“ 3 “ 4 “ “ “ 1 to 2, “	24.00
“ 3 “ 5 “ “ “ ¾ to 2, “	28.50
“ 3 “ 3 “ “ “ 1¼ to 2, “ and Left,	32.00
“ 3 “ 4 “ “ “ 1 to 2, “ “	40.00
“ 3 “ 5 “ “ “ ¾ to 2, “ “	48.50

Style of No. 3 Stock is same as No. 2½ Pipe Stock.

ARMSTRONG'S ADJUSTABLE STOCK, NO. 6, AND DIES FOR THREADING PIPE, 2 1-2 AND 3 INCH.

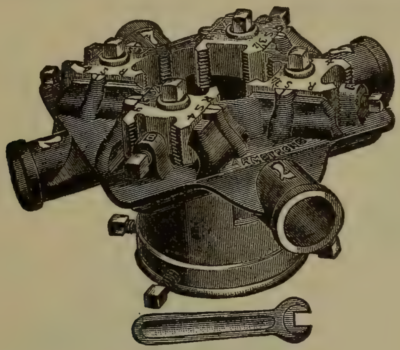


Fig. 253.

No. 6 Stock and Die cutting 2½ x 3 Right hand,	$40.00
No. 6 Stock and Die cutting 2½ x 3 Right and Left hand,	55.00

The change from 2½ to 3-inch is made by simply reversing the Dies end for end when they will cut to standard sizes without further adjustment.

ARMSTRONG'S ADJUSTABLE STOCK, NO. 7, AND DIES FOR THREADING PIPE; 2 1-2, 3, 3 1-2 AND 4 INCH.

These Dies come in sets of four pieces. Each piece being double-ended. They have the same Adjustable features and Double Taper as other Dies.

No. 7 Stock cutting 2½, 3, 3½, 4, Right,	$60.00
“ 7 “ “ 2½ and 3, “	45.00
“ 7 “ “ 3½ “ 4, “	45.00
“ 7 “ “ 2½ “ 4, “ and Left,	92.00
“ 7 “ “ 2½ and 3 or 3½ and 4, R. and L.,	60.00

The No. 7 Stock has 4 arms.

PRICES OF EXTRA PIPE DIES FOR ABOVE NOS. 3, 6 AND 7.

No. 3. For pipe ¾, 1, 1¼, 1½ or 2-in., Right or Left, each,	$4.00
“ 6. “ “ double ends, 2½ x 3-in., “ “ “ “	15.00
“ 7. “ “ “ “ 2½ x 3 “ “ “ “ “	16.00
“ 7. “ “ “ “ 3½ x 4 “ “ “ “ “	16.00

ARMSTRONG'S NO. 0, MACHINISTS' SCREW PLATE.

No. 0 Stock with Dies and Taps for threading bolts and nuts, 7 sizes, ¼ to ¾,	$20.00

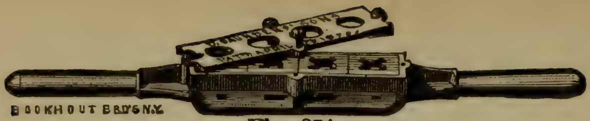

BOOKHOUT BRO'S N.Y.

Fig. 354.

COMBINATION DIE STOCK,

With Loose Dies, for Threading Pipe.

No. 0.	With dies cutting ⅛, ¼, ⅜ and ½ inch pipe	$ 8 00
" 00.	" " " ½, ¾, 1 " "	9 00
" 0.	Extra dies, right or left hand	1 00
" 00.	" " " " " "	1 50

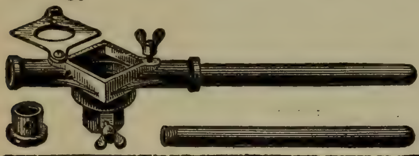


Fig. 355.

MALLEABLE IRON DIE STOCKS,

With Loose Handles and Solid Dies for Threading Iron Pipe.

Numbers	1	1½	2	2½	2¾
Pipe size of dies	⅛, ¼, ⅜, ½	¼, ⅜ ½, ¾, 1	¾, 1	¾, 1. 1¼	1, 1¼, 1½
Outside dimensions of dies	2 x ½	2½ x ¾	3 x ¾	3 x ¾	3 x ⅞
Complete with R. H. dies .	$ 6 50	$10 00	$ 8 00	$10 00	$12 00
Extra guides	20	25	25	30	40
" die holders . . .	- -	—	—	40	40
" dies, right or left .	1 00	1 50	2 00	2 00	2 25

Numbers	3	3	3A	4
Pipe sizes of dies	1¼, 1½. 2	1¼, 1½, 2	1¼, 1½. 2	2½, 3
Outside dimensions of dies . . .	4 x ⅞	4 x 1	4 x 1	5 x 1¼
Complete with R. H. dies	$15 00	$16 00	$18 00	$40 00
Extra conides	50	50	50	1 00
" die holders	50	50	50	1 00
" dies, right or left	3 00	3 25	3 25	10 00

Nos. 3, 3A patent stock, and No. 4 have leader screw attachment.
No. 4 is provided with 4 sockets for the loose handles to fit into.

ASHCROFT PIPE STOCKS AND DIES.

Numbers	0	1	1½
Pipe size of dies	⅛, ¼, ⅜. ½	¼, ⅜, ½, ¾. 1	¾, 1, 1¼
Dimension of dies	2 x ½	2⅜ x ¾	3 x ¾
Complete with R. H. dies	$ 9 50	$15 00	$13 50
Stocks only	3 50	5 00	6 00
Extra dies, right or left	1 50	2 00	2 50
" bushings	25	35	45
Die frames	—	30	40

Numbers	1¾	2	3
Pipe size of dies	1, 1¼, 1½	1¼, 1½. 2	2½, 3
Dimension of dies	3 x ¾	3⅞ x ⅞	4⅞ x 1¼
Complete with R. H. dies	$13 50	$20 00	$43 00
Stocks only	6 00	9 50	25 00
Extra dies, right or left	2 50	3 50	9 00
" bushings	45	60	1 00
Die frames	40	50	60

Nos. 2 and 3 stocks have leader screw attachment.

COPPER-PLATED STEEL OILERS.

Used by the leading machinists and railroads. Heavily copper-plated inside. The outside perfectly resembles 14-carat gold.

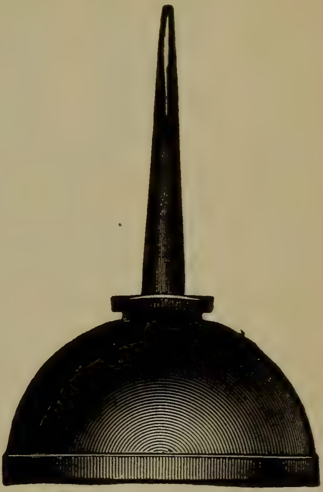


Fig. 358.
Nos. 12, 13, 13A, 14A, 14AA, 15, 15A.

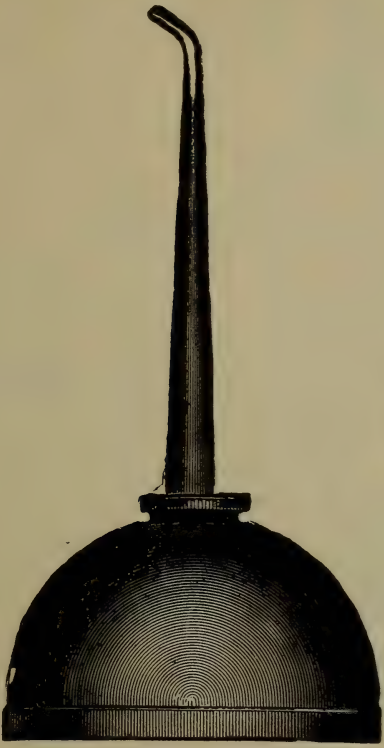


Fig. 357.
Nos. 14, 14B, 16.

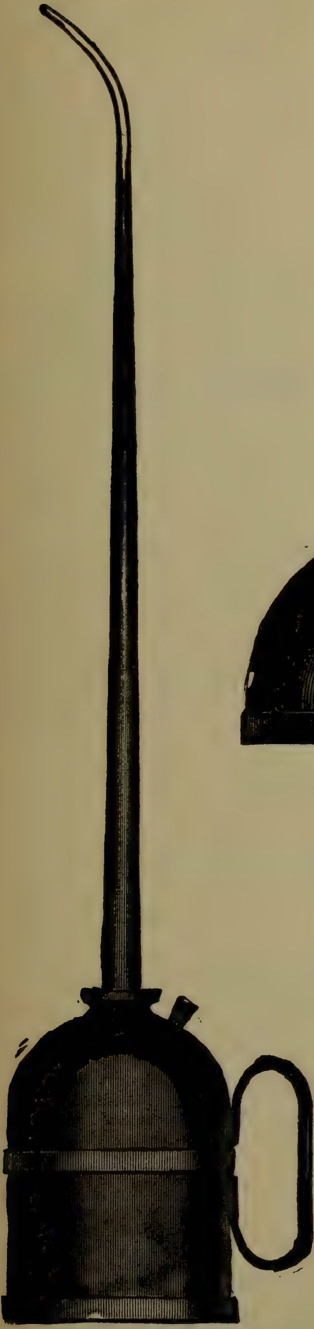


Fig. 356.—Railroad Oiler.
Nos. 10, 11.

No.		Diameter.	Nozzle.	Per Doz.
12.	Steel Oiler,	2¾ inch	2½ inch	$4.50
13.	“ “	3⅜ “	3 “	5.50
13A.	“ “	3⅜ “	5 “	6.00
14.	“ “	3⅜ “	9 “	6.50
14A.	“ “	3¾ “	3 “	7.50
14AA.	“ “	3¾ “	5 “	8.00
14B.	“ “	3¾ “	9 “	8.50
15.	“ “	4¼ “	3 “	9.25
15A.	“ “	4¼ “	5 “	9.75
16.	“ “	4¼ “	9 “	10.50

RAILROAD OILERS.

No. 10.	1-pint Railroad Oiler, 3⅜ in. diameter, 5 in. high, 12 in. nozzle, . per doz.,	$14.00
No. 11.	1-quart Railroad Oiler, 4⅛ in. diameter, 6 in. high, 18 in. nozzle, . per doz.,	$18.00
No. 111.	2-quarts, 5 in. diameter, 8 in. high, 10 in. or 14 in. nozzle, . . per doz,	$20.00

ENGINEERS' FILLERS.

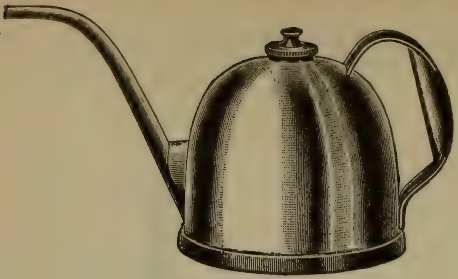


Fig. 359.

Steel Fillers, Copper Plated.

No.		Diameter.	High.	Per doz.
19	1-pint	4⅛ in.	3½ in.	$14.00
19A	1½ “	4¾ “	4 “	17.00
210	1-quart	5 “	5 “	20.00
211	2 “	6 “	6 “	24.00

ENGINEERS' SETS.

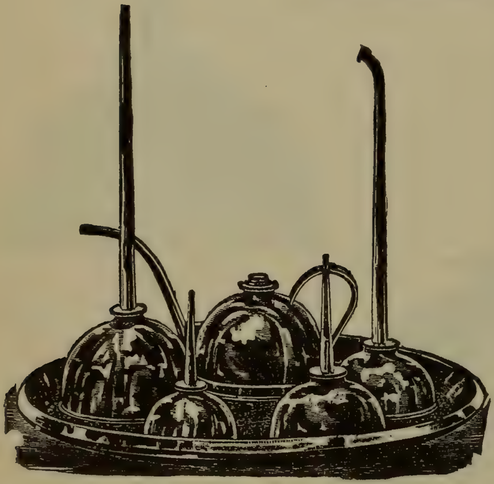


Fig. 360.

Steel.
Copper and Nickel-Plated.
With Round Tray.

No.				
30.	Five Pieces,	Copper-plated,		$ 5.00
40.	Six	“	“	7.00
50.	Five “	Nickel	“	7.00
60.	Six “	“	“	10.00

With Oval Tray.

No.				
35.	Five Pieces,	Copper-plated,		$ 7.00
45.	Six “	“	“	10.00
55.	Five “	Nickel	“	8.00
65.	Six “	“	“	11.00

MALLEABLE IRON OILERS.

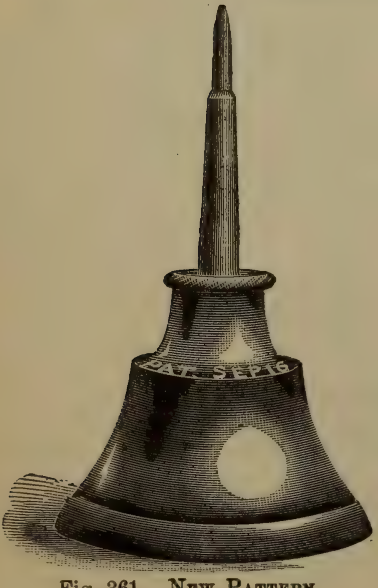


Fig. 361. New Pattern.

Old Style. Brass Bottom.

No. 1, ...	$3.60 per doz
No. 2, ...	4.00 “
No. 3, ...	4.40 “

New Improved Patent.
Brass Bottom.

No. 11, ...	$3.60 per doz.
No. 12, ...	4.00 “
No. 13, ...	4.40 “

Extra Tubes, $1.80 per doz.

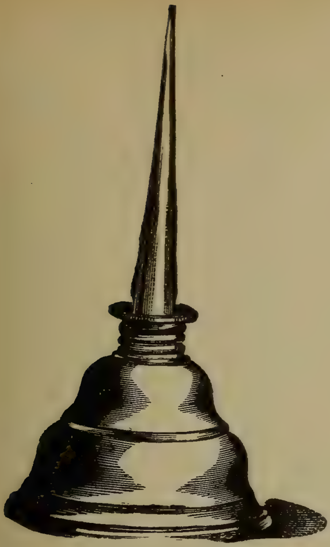


Fig. 362.

CHACE'S OILERS.

CAPACITY.				ZINC.	ZINC.	BRASS.	COP'R.
No.	Gills.			Tin Bot.	Brass Bot.		Brass Bot.
00	¼	per	doz.	$1.00	$1.25	$2.00	$2.25
0	½	"	"	1.25	1.50	2.25	2.50
1	¾	"	"	1.50	1.75	2.50	2.75
1½	1	"	"	1.75	2.00	3.00	3.25
2	1¾	"	"	2.00	2.50	3.50	3.75
3	2	"	"	2.25	3.00	4.00	4.25
4	3	"	"	2.75	3.50	4.75	5.00
5	4	"	"	3.50	4.50	6.00	6.25
6	4¾	"	"	4.50	5.50	7.50	8.00

Nos. 00, 0, and 1, one dozen in a box; other Nos., half dozen.

PARAGON OILERS.

No.			ZINC. Tin Bot.	ZINC. Brass Bot.	BRASS.	COP'R. Brass Bot.
0	per	doz.	$2.00	$2.25	$3.00	$3.25
1	"	"	2.25	2.50	3.50	3.75
1½	"	"	2.50	3.00	4.00	4.25
2	"	"	3.00	3.50	4.50	4.75
3	"	"	3.25	4.00	5.25	5.50
4	"	"	3.75	4.50	6.00	6.25
5	"	"	4.50	5.50	7.00	7.25
6	"	"	5.50	6.50	8.50	8.75

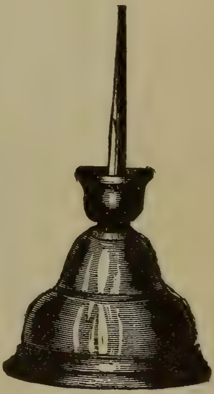


Fig. 363.

BOLT AND RIVET CLIPPERS.

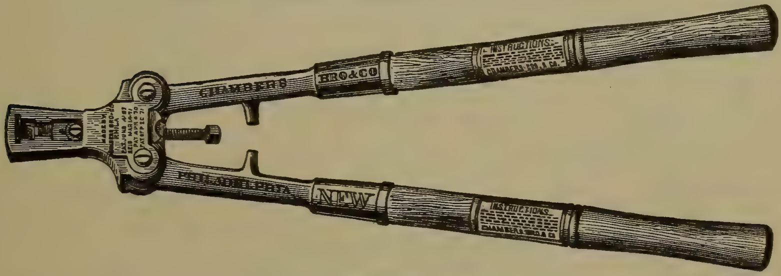


Fig. 364.

		EACH.
No. 1.	For ⅜-inch bolt or less, for carriage work, harness makers, etc., . . .	$7.50
No. 2.	For ½-inch " " wheelwrights, machinists, founders, etc., . .	9.00
No. 3.	For ⅝ inch " " car builders, and heavy work generally, . .	12.00
No. 4.	REGULAR to cut ¾-inch, ...	15.00

The above Clippers cut flush with the work.

"SPECIAL No. 4," to cut ¾-inch $15.00

It cuts a ¾-inch bolt or stay-rod ⅛-inch above the surface of the work through which it projects, thus always leaving ⅛ inch for riveting. When No. 4 is wanted, specify whether "Special" or "Regular." Each tool is tested and guaranteed right in every respect.

STEEL WIRE NAILS.

Length Inches.	No.	Per Pound.
¼	19	$1.00
	20	1.25
	21	1.55
	22	1.90
⅜	18	80
	19	90
	20	1.00
	21	1.25
	22	1.55
½	16	55
	17	60
	18	65
	19	75
	20	85
	21	1.00
	22	1.25
⅝	14	43
	15	45
	16	50
	17	52
	18	58
	19	65
	20	75
	21	85
	22	1.10
¾	12	36
	13	38
	14	38
	15	42
	16	43
	17	46
	18	52
	19	60
	20	70
	21	85
⅞	11	33
	12	33
	13	34
	14	35
	15	36
	16	39
	17	43
	18	45
	19	56
	20	67
1	10	30
	11	30
	12	30
	13	31
	14	32
	15	33

Length Inches.	No.	Per Pound.
1	16	$0.36
	17	40
	18	43
	19	53
	20	64
1⅛	10	30
	11	30
	12	30
	13	31
	14	32
	15	32
	16	35
	17	40
	18	43
	19	53
1¼	8	29
	9	29
	10	29
	11	29
	12	29
	13	30
	14	31
	15	32
	16	34
	17	39
	18	43
1⅜	8	29
	9	29
	10	29
	11	29
	12	29
	13	30
	14	31
	15	32
	16	34
	17	39
	18	43
1½	6	29
	7	29
	8	29
	9	29
	10	29
	11	29
	12	29
	13	29
	14	30
	15	31
	16	33
	17	38
	18	43

Length Inches.	No.	Per Pound.
1¾	6	$0.28
	7	28
	8	28
	9	28
	10	28
	11	28
	12	28
	13	28
	14	29
	15	30
	16	32
	17	38
2	7	27
	8	27
	9	27
	10	27
	11	28
	12	28
	13	28
	14	29
	15	30
	16	35
	17	38
2¼	6	27
	7	27
	8	27
	9	27
	10	27
	11	28
	12	28
	13	28
	14	29
	15	30
	16	35
2½	6	26
	7	26
	8	26
	9	26
	10	26
	11	27
	12	27
	13	28
	14	29
	15	30
2¾	6	26
	7	26
	8	26
	9	26
	10	26
	11	27

Length Inches.	No.	Per Pound.
2¾	12	$0.27
	13	28
	14	29
3	5	25
	6	25
	7	25
	8	25
	9	25
	10	25
	11	26
	12	27
	13	28
	14	29
3¼	6	25
	7	25
	8	25
	9	25
	10	25
	11	26
	12	27
	13	28
	14	29
3½	6	25
	7	25
	8	25
	9	25
	10	25
	11	26
	12	27
4	6	25
	7	25
	8	25
	9	25
	10	25
	11	26
4½	5	25
	6	25
	7	25
	8	25
	9	25
5	5	25
	6	25
	7	25
	8	25
5½	3	25
	4	25
6	3	25
	4	25

For Barbed Nails, add 2 cents per lb. to list.
For Special Heads, add 2 cents per lb to list.
For Special Points, add 2 cents per lb. to list.
For Annealing, add 2 cents per lb. to list.
For Nails, combining Special Heads and Points, add for each.

Nails packed in ½ lb. papers, add 4 cents to list.
Nails packed in ¼ lb. papers, add 8 cents to list.
Nails, in 25 or 50 lb. boxes, deduct 1 cent from list.
Nails, in 100 lb. kegs, deduct 2 cents from list
Tinned or Galvanized Nails at Special Prices.

Discount, Per Cent.

Prices subject to change without notice.

STANDARD STEEL WIRE NAILS AND CUT NAILS.

PRICE LIST.

Size.	Length of Nail.	Add to the Standard Base.
COMMON, FENCE, FLOORING BRADS AND SHINGLE NAILS.		
60d	6 inch	Base.
50d	5½ inch	Base.
30d and 40d	4½ in. and 5 in.	Base.
20d	4 inch	Base.
12d and 16d	3¼ in. and 3½ in.	$0.05
10d	3 inch	
8d and 9d	2½ in. and 2¾ in.	.10
6d and 7d	2 in. and 2¼ in.	.20
4d and 5d	1½ in. and 1¾ in.	.30
3d	1¼ inch	.45
2d	1 inch	.70
BARBED CAR AND COMMON.		
15c. per keg advance over common.		
CASING, SMOOTH BOX.		
20d and 40d	4½ in. and 5 in.	$0.15
30d	4 inch	.15
12d and 16d	3¼ in. and 3½ in.	.15
10d	3 inch	.15
8d and 9d	2½ in. and 2¾ in.	.25
6d and 7d	2 in. and 2¼ in.	.35
5d	1¾ inch	.50
4d	1½ inch	.50
3d	1¼ inch	.70
2d	1 inch	1.00
(Barbed Box, 15c. additional.)		
SMOOTH FINISHING NAILS.		
2d	1 inch	$1.15
3d	1¼ inch	.85
4d	1½ inch	.65
5d	1¾ inch	.65
6d and 7d	2 in. and 2¼ in.	.45
8d and 9d	2½ in. and 2¾ in.	.35
10d	3 inch	.25
12d and 16d	3¼ in. and 3½ in.	.25
20d	4 inch	.25
Barbed Finishing Nails, 15c. additional.)		
FINE NAILS.		
2d	1 inch	$1.00
3d	1⅛ inch	.50
4d	1½ inch	.50
LINING NAILS.		
	¾ inch	$1.20
	⅞ inch	1.00
	1 inch	.80

Size.	Length of Nail.	Add to the Standard Base.
BARREL NAILS.		
	¾ inch	$1.00
	⅞ inch	.85
	1 inch	.70
	1⅛ inch	.60
	1¼ inch	.50
	1⅜ inch	.40
	1½ inch	.30
SLATING NAILS.		
2d	1 inch	$0.80
3d	1¼ inch	.60
4d	1½ inch	.40
5d	1¾ inch	.40
6d	2 inch	.30
BARBED ROOFING NAILS.		
	¾ inch	$0.75
	⅞ inch	.65
2d	1 inch	.60
3d	1¼ inch	.55
4d	1½ inch	.45
5d	1¾ inch	.45
6d	2 inch	.35
TOBACCO NAILS.		
4d and 5d	1½ in. and 1¾ in.	$0.30
6d and 7d	2 in. and 2¼ in.	.20
8d and 9d	2½ in. and 2¾ in.	.10
10d	3 inch	.05
CLINCH NAILS.		
2d	1 inch	$1.05
3d	1¼ inch	.85
4d and 5d	1½ in. and 1¾ in.	.65
6d and 7d	2 in. and 2¼ in.	.55
8d and 9d	2½ in. and 2¾ in.	.45
10d	3 inch	.35
12d and 13d	3¼ in. and 3½ in.	.35
20d	4 inch	.35
WIRE SPIKES.		
All sizes	3 in. to 9 in.	$0.10

NAIL PULLERS.

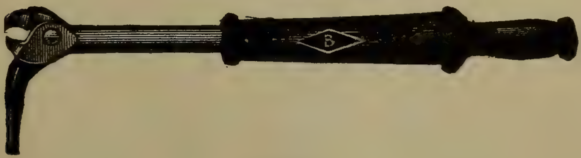


Fig. 365.

Large or No. 2.—Weight 5 pounds, 3 doz. in a case. List, per doz., $18.00.
Small or No. 3.—Weight 3 pounds, 1 doz. in a case. List, per doz., 15.00.

LINING NAILS.

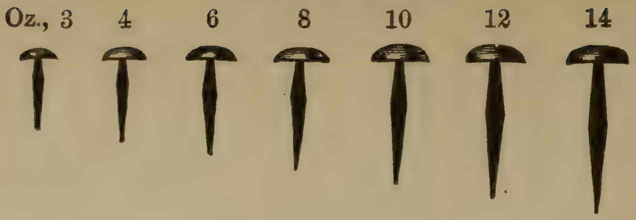


Fig. 366.

SILVER OR JAPANNED HEADS,	3 to 12 oz., full count	(100)	per paper,	$0.08
" " " "	14 to 24 " " "	(100)	" "	.09
" " " "	3 to 12 " short "	(75)	" "	.06
" " " "	14 to 24 " " "	(75)	" "	.07

Twenty papers in a package. Short count will be sent unless otherwise ordered.

FINISHING NAILS.

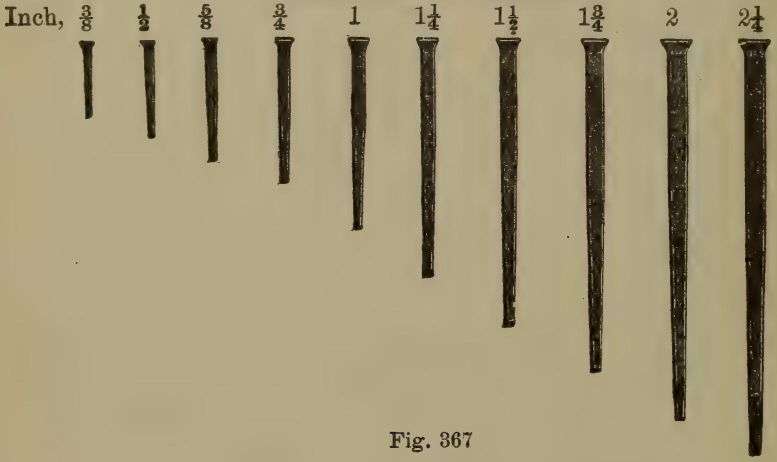


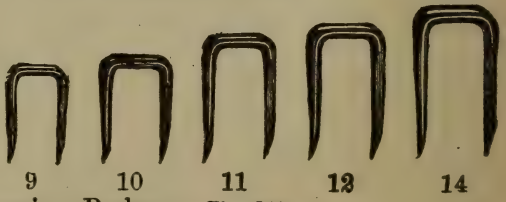
Fig. 367

In half and one pound papers or in bulk.

Inch,	½	⅝	¾	⅞	1	1⅛	1¼	1½	1¾	2
Per Pound,	$0.39	$0.32	$0.27	$0.24	$0 23	$0.23	$0.23	$0.23	$0.23	$0.23

For ½ pound papers, add 4 cents per pound to list.

DOUBLE POINTED TACKS.



Twelve Papers in a Package. Fig. 368.

Nos.		9	10	11	12	14
Blued (100 count),	per dozen,	$1.20	$1.30	$1.40	$1.60	$1.85
Tinned (100 "),	" "	$1.35	$1.45	$1.60	$1.85	$2.15

In Bulk.

Nos.		9	10	11	12	14
Blued	per pound,	$0.46	$0.42	$0.41	$0.40	$0.39
Tinned	" "	$0.55	$0.51	$0.50	$0.49	$0.48

100 pounds each size in case. In 25-pound boxes, add 1 cent per pound to list; in 10-pound boxes add 3 cents.

CUT TACKS.

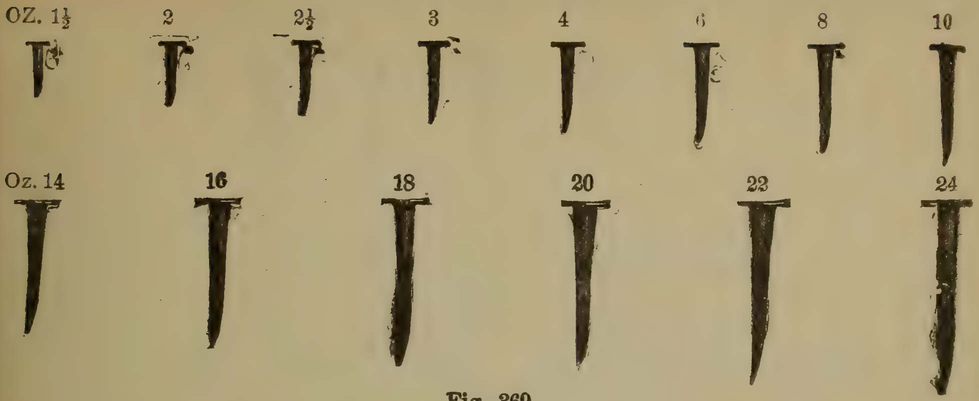


Fig. 369.

AMERICAN IRON CUT TACKS.

Per Dozen Papers.

Ounce,	1,	1½,	2,	2½,	3,	4,	6,	8,
Half weight,	$0.95	1.05	1.15	1.25	1.35	1.50	1.80	2.20
Ounce,	10,	12,	14,	16,	18,	20,	22,	24.
Half weight,	$2.60	3.00	3.40	3.80	4.20	4.60	5.00	5.40

One dozen papers in a package.

SWEDES IRON CUT TACKS AND UPHOLSTERERS' TACKS.

Per dozen papers.

Ounce,	1,	1½,	2,	2½,	3,	4,	6,	8,
Full weight,	$2.85	3.05	3.25	3.45	3.80	4.40	5.60	6.80
Half weight,	1.55	1.65	1.75	1.85	2.00	2.30	2.90	3.50
" " Tinned,	2.40	2.45	2.50	2.55	2.60	3.10	3.80	4.70
Ounce,	10,	12,	14,	16,	18,	20,	22,	24,
Full weight,	$8.00	9.20	10.40	11.60	12.80	14.00	15.40	16.80
Half weight,	4.10	4.70	5.30	5.90	6.50	7.10	7.80	8.50
Half " Tinned,	5.60	6.50	7.40	8.30	9.20	10.10	11.10	12.10

One dozen papers in a package.

MINERS' TACKS.

Ounce,	4,	6,	8,	10,	12,

Same list as Swedes Tacks.

ESTABLISHED LENGTHS OF TACKS.

COPPER, AMERICAN AND SWEDES IRON TACKS.

Ounce,	1,	1½,	2,	2½,	3,	4,	6,	8,	10,	12,	14,	16,	18,	20,	22,	24,
Inch,	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{4}{16}$	$\frac{5}{16}$	$\frac{6}{16}$	$\frac{7}{16}$	$\frac{8}{16}$	$\frac{9}{16}$	$\frac{10}{16}$	$\frac{11}{16}$	$\frac{12}{16}$	$\frac{13}{16}$	$\frac{14}{16}$	$\frac{15}{16}$	$\frac{16}{16}$	$\frac{18}{16}$

GIMP AND LACE TACKS.

Ounce,	1,	1½,	2,	2½,	3,	4,	6,	8,	10,	12,	14,	16,	18,	20,
Inch,	$\frac{7}{32}$	$\frac{4}{16}$	$\frac{5}{16}$	$\frac{6}{16}$	$\frac{7}{16}$	$\frac{8}{16}$	$\frac{9}{16}$	$\frac{10}{16}$	$\frac{11}{16}$	$\frac{12}{16}$	$\frac{13}{16}$	$\frac{14}{16}$	$\frac{15}{16}$	$\frac{16}{16}$

LARGE HEAD CARPET TACKS.

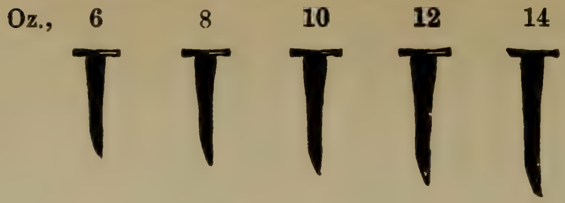


Fig. 370.

Swedes Iron Carpet Tacks, With Flat Heads.

Per dozen papers.

Ounce,	4	6	8	10	12	14	16	18	20
Half weight,	$2.30	2.90	3.50	4.10	4.70	5.30	5.90	6.50	7.10
" " Tin'd,	3.10	3.80	4.70	5.60	6.50	7.40	8.30	9.20	10.10

One dozen papers in a package.

American Iron Carpet Tacks, With Flat Heads.

Per dozen papers.

Ounce,	4	6	8	10	12	14	16
Half weight,	$1.50	1.80	2.20	2.60	3.00	3.40	3.80
" " Tin'd,	2.10	2.50	3.00	3.65	4.30	4.95	5.60
Quarter " "	.85	1.00	1.20	1.40	1.60	1.80	2.00

One dozen papers in a package.

Steel Carpet Tacks, With Flat Heads.

Per dozen papers.

Ounce,	6	8	10	12	14	16
2 oz. papers,	$1.20	1.20	1.20	1.20	1.20	1.20
4 " "	2.20	2.20	2.20	2.20	2.20	2.20

Tinned Steel Carpet Tacks, With Flat Heads.

Per dozen papers.

Ounce,	6	8	10	12	14	16
2 oz. papers,	$1.60	1.60	1.60	1.60	1.60	1.60
4 " "	3.00	3.00	3.00	3.00	3.00	3.00

One dozen papers in a package.

Copper Tacks.

Per dozen papers.

Ounce,	1	1½	2	2½	3	4	6	8
Full weight,	$1.12	1.30	1.40	1.60	1.80	2.00	2.52	3.36

GIMP TACKS.

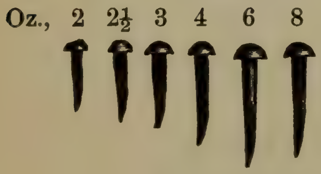


Fig. 371.

LACE TACKS.

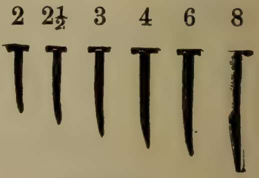


Fig. 372.

Gimp and Lace Tacks.

Per dozen papers.

Ounce,	1	1½	2	2½	3	4	6
Half weight,	$1.85	2.05	2.20	2.40	2.55	2.85	3.45
" " Tin'd	2.75	2.85	3.00	3 10	3.35	3,65	4.35
Ounce,	8	10	12	14	16	18	20
Half weight,	$4.10	4.75	5.45	6.10	6.90	7.70	8.50
" " Tin'd	5.05	6.10	7.15	8.20	9.30	10.50	11.70

One dozen papers in a package.

SPRING COTTERS.

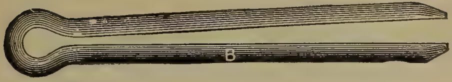


Fig. 373.

PRICE PER THOUSAND.

All measurements are made under the eye.

Wire Gauge	13	12	11	10	9	8	7	6	5	4	1				
Diameter.	$\frac{3}{32}$	$\frac{7}{64}$	$\frac{1}{8}$	$\frac{9}{64}$	$\frac{5}{32}$	$\frac{11}{64}$	$\frac{3}{16}$	$\frac{13}{64}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	⅝
Length.															
½	$3.75	$4.25	$4.75	$5.00	$5.50	$6.00	......	......	......	......	......	......	......	......	......
¾	4.40	4.90	5.50	5.80	6.50	7.20	$7.50	$8.00	......	......	......	......	......	......	......
1	5.00	5 50	6.25	6.60	7.50	8.40	8.80	9.50	$12.00	$15.00	$20.50	......	......	......	......
1¼	5.60	6.10	7.00	7.40	8.50	9.60	10.10	11.00	13.50	16.50	22.75	......	......	......	......
1½	6.20	6.70	7.75	8.20	9.50	10.80	11.40	12.50	15.00	18.00	25.00	$28.50	......	......	......
1¾	6.80	7.30	8.50	9.00	10.50	12.00	12.70	14.00	16.50	20.00	27.25	30.75	$39.00	......	......
2	7.40	7.90	9.25	10.00	11.50	13.20	14.00	15.50	18.00	22.00	29.50	33.50	43.50	$52.50	......
2¼	......	......	10.00	11.00	12.50	14.40	15.30	17.00	19.50	24.00	31.75	36.00	47.25	57.75	......
2½	......	......	10.75	12.00	13.50	15.60	16.80	18.50	21.00	26.25	34.00	38.75	51.00	63.00	......
2¾	......	......	......	......	......	......	18.30	20.50	23.50	28.00	36.75	40.50	54.75	68.00	......
3	......	......	......	......	......	......	19.80	22.50	25.00	30.00	39.75	43.25	58.50	73.50	$112.50
3¼	......	......	......	......	......	......	......	......	......	32.00	42.75	46.00	62.25	78.75	118.50
3½	......	......	......	......	......	......	......	......	......	34.00	45.00	48.75	66.00	84.00	124.50
3¾	......	......	......	......	......	......	......	......	......	36.50	47.25	51.75	69.75	89.25	130.50
4	......	......	......	......	......	......	......	......	......	39.00	49.50	54.75	73.50	94.50	136.50
5	......	......	......	......	......	......	......	......	......	......	......	......	88.50	115.50	160.50
6	......	......	......	......	......	......	......	......	......	......	......	......	......	136.00	184.50

CELLAR BOX PINS OR COTTERS.

PRICE PER THOUSAND.

DIAMETER.	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Length 7 Inches	$ 65.00	$ 84.00	$108.00	$146.00	$263.00
“ 8 “	75.00	99.00	125.00	169.00	293.00
“ 9 “	85.00	114.00	142.00	192.00	323.00
“ 10 “	95.00	129.00	159.00	215.00	353.00
“ 11 “	105.00	144.00	176.00	238.00	383.00
“ 12 “	115.00	159 00	193.00	261.00	413.00
“ 13 “	125.00	174.00	210.00	284.00	443.00
“ 14 “	135.00	189 00	227.00	307.00	473.00
“ 15 “	145.00	204.00	244.00	330.00	503.00
“ 16 “	155.00	219.00	261.00	353.00	533.00
“ 17 “	165.00	234.00	278.00	376.00	563.00
“ 18 “	175.00	249.00	295.00	399 00	593.00

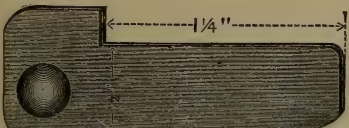


Fig. 374.

RIVETED FLAT KEYS.

Over forty different sizes and patterns.

Prices upon application.

Always give measurements as per illustration and thickness of key required.

FLAT SPRING KEYS.

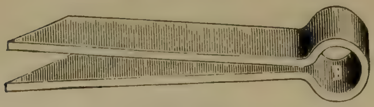


Fig. 375.

PRICE PER 1,000.

Length	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½
Width ⅜	$14.00	$15.75	$17.50	$19.25	$21.00	$22.75	$24.50	$26.25	.	.
" ½	21.00	22.75	24.50	26.25	28.00	29.75	31.50	33.25	.	.
" ⅝	.	.	26.25	28.00	30.75	33.25	36.00	38.50	$41.25	$43.75
" ¾	.	.	.	34.25	36 75	39.25	42.00	44.75	47.25	50.00

CHAMOIS SKINS IN KIPS (30 PIECES).

These Goods are Cut and Trimmed, Each Skin the Same Size.

SIZES AND PRICES PER KIP.

Fig. 376.

No.	Size		Price	
No. 22	— 7x 9	. .	$ 1 25	per Kip
" 22¼	— 8x10	. .	1 65	"
" 22⅜	— 9x11	. .	1 90	"
" 22½	—10x13	. .	2 20	"
" 22¾	—11x13½	. .	2 60	"
" 23	—12x14	. .	3 00	"
" 23½	—12x16	. .	4 00	"
" 24	—13x16	. .	4 50	"
" 24¼	—13x17	. .	5 00	"
" 24½	—14x18	. .	6 00	"
" 24¾	—15x20	. .	6 75	"
" 25	—16x21	. .	7 50	"
" 25½	—17x23	. .	8 75	"
" 26	—19x25	. .	10 00	"
" 26½	—20x26	. .	12 50	"
" 27	—23x26	. .	15 00	"
" 27½	—26x28	. .	18 00	"
" 28	—28x32	. .	22 50	"
" 29	—32x40	. .	30 00	"
" 30	—36x44	. .	40 00	"

ROUGE OR POLISHING CHAMOIS.

FOR POLISHING METAL AND PLATED WARE WITHOUT SCRATCHING.

The best polisher known, always ready for use, put up in one dozen packages.

No.	Size	Per Doz.
No. 60.	5x 7	$0 50
" 61.	8x10	75
" 62.	10x13	1 25
" 63.	12x14	1 75
" 64.	13x17	3 00
" 65.	16x21	4 50
" 66.	19x25	6 00

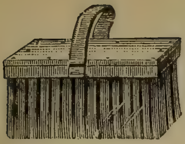


Fig. 377.

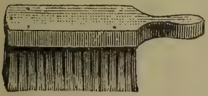


Fig. 378.

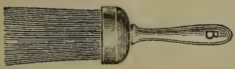


Fig. 379.

STEEL WIRE CASTING BRUSHES.

	Per Doz.		Per Doz.
4 rows 2 inch wire	$5.50	5 rows 3 inch wire	$ 7.50
4 " 2½ " "	6.00	5 " 3½ " "	8.00
4 " 3 " "	6.50	5 " 4 " "	8.50
4 " 3½ " "	7.00	5 " 4½ " "	9.00
4 " 4 " "	7.50	5 " 5 " "	9.50
4 " 4½ " "	8.00	6 " 3 " "	9.00
4 " 5 " "	8.50	6 " 4 " "	10.50
5 " 2 " "	6.50	6 " 5 " "	12.00
5 " 2½ " "	7.00		

1 row 2½ inch wire	Per doz., $3.00
2 " 2½ " "	" " 4.00
3 " 2½ " "	" " 5.00
4 " 2½ " "	" " 6.00
5 " 2½ " "	" " 7.00

4½ inch wire	Per doz., $ 7.00
6 " "	" " 9.00
8 " " (long handles)	" " 12.00

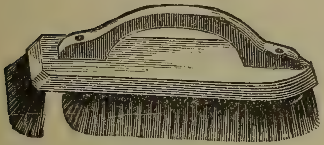


Fig. 380.

HARD FOUNDRY BRUSHES.

With handle	Per doz., $7.50
Without handle	" " 7.00

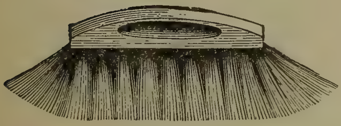


Fig. 381.

SOFT FOUNDRY BRUSHES.

No.	35	55	45	65	75
Inch Block	8	9	9	9	10½
Per Dozen	$7.25	8.00	8.50	9.60	12.80

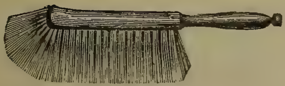


Fig. 382.

FOUNDRY BENCH BRUSHES.

No. 3x, ... Per doz., $6.00

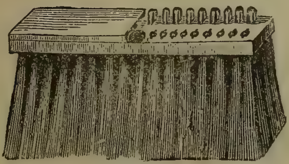


Fig. 383.

STANDARD RATTAN BROOMS.

12 inch, 4 Rows	Per doz., $4.50
14 " 4 "	" " 5.00
14 " 5 "	" " 5.50
14 " 6 "	" " 6.00
16 " 4 "	" " 5.50
16 " 5 "	" " 6.00
16 " 6 "	" " 6.50
14 " 4 " extra full, with wire staples	" " 5.50
16 " 4 " " " " "	" " 6.00
16 " 4 " Boston style, round back	" " 6.00
16 " 4 " Corporation	" " 8.50

STEEL BROOMS.

12 inch Block, 4 rows	Per doz., $12.00	12 inch Block, 6 rows	Per doz., $14.00
14 " " 4 "	" " 14.00	14 " " 6 "	" " 16.00
16 " " 4 "	" " 16.00	16 " " 6 "	" " 18.00

☞ When handles are required, add 40 cents per dozen net—extra.

UPRIGHT BROOMS.

	Per Doz.
Split Rattan Railroad Brooms	$5 50
"A" Rattan	5 50
"AA" Rattan	6 00
Upright Steel Broom, 10 inch, 4 Row	7 50
" " " 12 " 4 "	8 50
X Corn Brooms, 26 pounds to dozen	3 00
XX " " 30 " " "	3 75
XXX " " 30 " " "	4 00

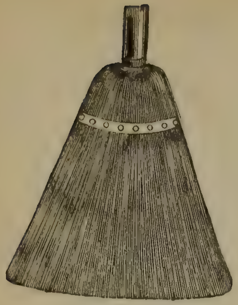


Fig. 384.

Whisk Brooms, per dozen . . . . $1 00 to $3 00

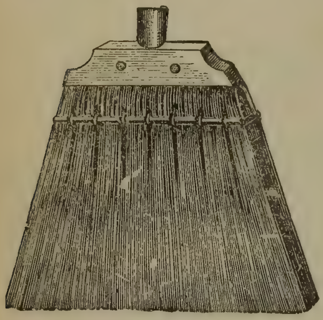


Fig. 385.

ALDEN UPRIGHT RATTAN AND BASS BROOMS.

	Per Doz.
Alden Rattan	$6 00
" Bass	8 00

SWITCH BROOMS.

	Per Doz.
Steel Wire, 12 inches	$8 00
Alden Hickory Fibre	8 00
Switch, short and stubby, 32 pounds, sewed to 4 inches from end	5 50

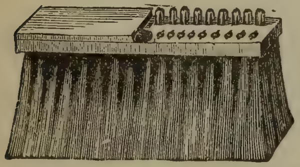


Fig. 386.

COIR OR BASS BROOMS.

	Per Doz.		Per Doz.
9 inch Pavement	$4 50	16 inch 5 rows	$ 8 00
12 " 4 rows	5 00	14 " 6 "	8 00
14 " 4 "	5 50	16 " 6 "	12 00
16 " 4 "	6 00	18 " 6 "	15 00
14 " 5 "	6 00	20 " 6 "	18 00

☞When handles are required add 40c per dozen. Net—Extra.

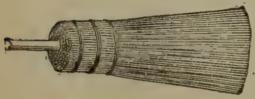


Fig. 387.

ROUND YACHT BROOM.

	Per Doz.
Upright Round Bass	$8 00
" " Rattan	7 00

CLAMP SCRUB BRUSH.

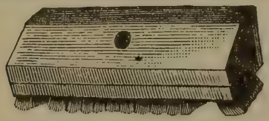


Fig. 388.

Bass, per doz.	$4 50
Tampico "	4 00
Bristle "	8 50

Handles included.

DECK SCRUB BRUSH.

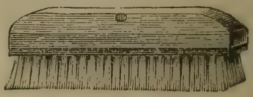


Fig. 389.

Bass, per doz. . $6 00
Handles included.

COTTON MOPS.

8, 10, 12, 14, 16 and 18 pounds to dozen Mops, per pound $0 12

Car Mops are usually used 8 and 12 pounds.

MOP STICKS.

With Fastenings, per dozen $1 50

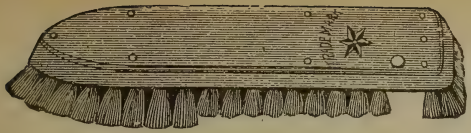


Fig. 390.

SCRUB BRUSHES.

One Piece. Solid Block.

PACKED ONE DOZEN IN A BOX.

No. 31.	Single end, 8 inch block, all white,	Per doz., $0.75
No. 33.	Single end, 10 inch block, all white,	" .80
No. 20.	Single end, all white,	" 1.25
No. 47.	Double end, all white,	" .95
No. 53.	Double end, all white,	" 1.25
No. 26.	Double end, all white,	" 1.60
No. 208.	Double end, all white,	" 1.50
No. 600.	Double end, all gray,	" 1.50
No. 29.	Double end, gray, very stiff,	" 1.75

TWO-PIECED, HAND MADE.

No. 116	Extra gray bristles,	Per doz., $4 50
No. 117.	Extra gray bristles,	" 5.00

McLAUGHLIN'S RAILROAD CAR-WASHER.

Nos. 1 and 2 for Steam Roads, Nos. 3 and 4 for Electric Roads.

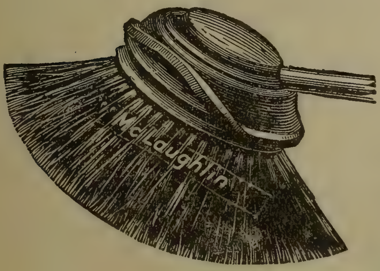


Fig. 391.

No.	1	2	3	4
Per doz.,	$30.00	24.00	21.00	15.00

ROUND CAR WASHERS.

Made of the best quality of bristles, fastened with copper wire. The block is also surrounded by a rubber band.

No.	14	15	16
Per doz.,	$37 50	47.50	52.50

No. 112. Mixed gray stock, . Doz., $28.25

OBLONG CAR WASHER.

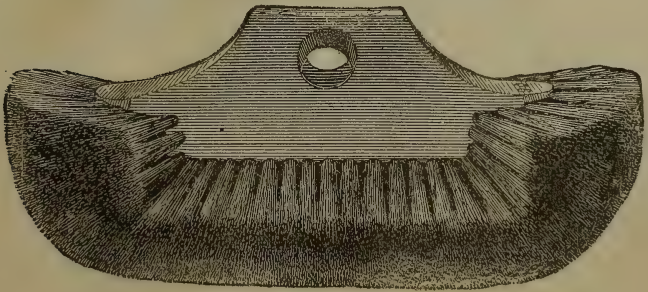


Fig. 392.

Many of the Leading Railroads use these Car Washers.

A1 COPPER-FASTENED BLOCKS, WATERPROOF.

No. 80.	All gray bristles,	Per doz., $33.75
No. 95.	Black Horse Hair,	" 37.50
Extra.	Gray bristles cased with white,	" 41.25
No. 90.	Black Horse Hair,	" 43.25
No. 100	Black Horse Hair,	" 50.00

FLAT VARNISH BRUSHES.

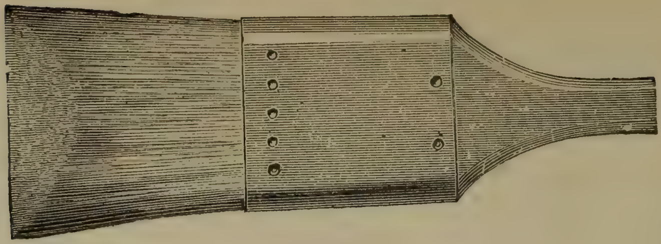


Fig. 393.

QUALITY C. CEDAR HANDLES.

A good brush, perfectly made, and suitable for all ordinary varnishing.

Size Inches,	1	1½	2	2½	3	3½	4
Per dozen,	$1 75	$2.80	$3.85	$5.25	$7.25	$12.50	$16.75

FLAT VARNISH BRUSHES.

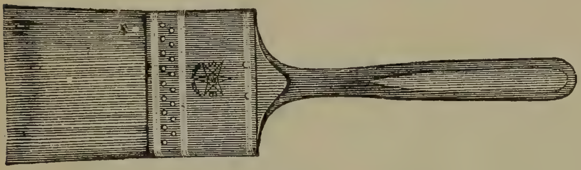


Fig. 394.

QUALITY E-E.

Chiseled edge. Double thick.

SENSIBLE CEDAR HANDLES.

Size Inches,	1	1½	2	2½	3	3½	4
Per Dozen,	$3.60	$5.75	$8.40	$10.50	$14.00	$19.00	$28.00

FLAT VARNISH BRUSHES.

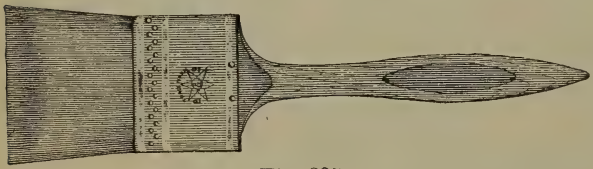


Fig. 395.

QUALITY PALACE.

Made of fine French bristles, extra heavy, chiseled edges.

Brass ferrules. Doubled nailed.

POLISHED HANDLES.

Size Inches,	1	1½	2	2½	3
Per Dozen,	$5.75	$8.40	$10.50	$14.75	$21.00

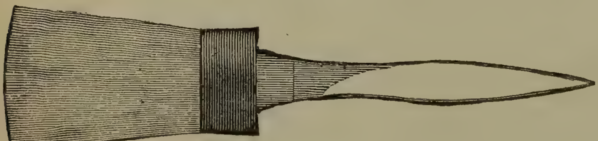


Fig. 396.

OVAL PAINT OR VARNISH BRUSHES.

QUALITY E-F.

All white bristles. Fine quality. Beaver tail handles. Narrow ferrules. Wire bound.

No.	6	5	4	3	2	1	0	2-0	3-0	4-0	5 0	6 0	7-0	8 0
Per Doz.	$5.50	6.50	7.50	8.60	10.50	12.00	14.00	16.75	19.50	23.00	30.00	34.00	42.00	48.00

OVAL VARNISH BRUSHES.

QUALITY SABLE. CHISELED.

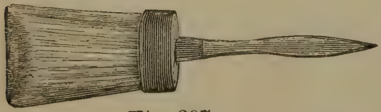


Fig. 397.

Made of best black bristles, soft and very elastic. Suitable for finest work. Large Sizes.

NICKEL FERRULES.

No.	0	2-0	3 0	4-0	5-0	6-0	7-0
Per Dozen,	$9.00	$12.00	$14 50	$18.00	$21.00	$27.00	$33.00

PAINT BRUSHES.—Quality B.

This we warrant a good brush, free from Tampico, and a brand which we warrant to give perfect satisfaction.

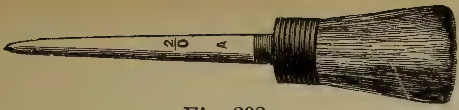


Fig. 398.

GOOD FOR SHIP USE. WIRE BOUND.

No.	6,	5,	4,	3,	2,	1,	0,
Per Doz.,	$4.00	5.25	6.35	8.00	9.75	11.00	13.50
No.	2-0,	3-0,	4-0,	5-0,	6-0,	7-0,	8-0,
Per Doz.,	$15.75	18.00	23.00	26.50	33.00	36.50	44.00

PAINT BRUSHES.

Quality E-E.

Made from all fine white Russia Bristles. Suitable for railroads.

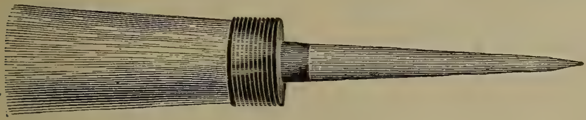


Fig. 399.

WIRE BOUND.

No.	0,	2-0,	3-0,	4-0,	5-0,	6-0,	7-0,	8-0,
Per Doz.,	$17.00	21.00	25.50	30.00	37.00	44.00	50.00	59.00

PAINT BRUSHES.

Quality D-X-X.

Made from selected Russia stock, and warranted to give satisfaction to painters.

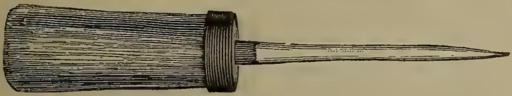


Fig. 400.

TWINE OR WIRE BOUND.

No.	4-0,	5-0,	6-0,	7-0,
Per Doz.,	$37.00	43.00	52.00	58.00

SASH TOOLS.—Quality Gloss.

The finest sash tool made.

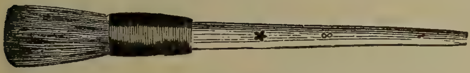


Fig. 401.

TWINE BOUND.

No.	1.	2,	3,	4,	5,	6,	7,	8,	9,	10,
Per Doz.,	$1.95	2.85	3.50	4.25	5.00	6.15	6.75	8.40	9.50	11.75

WALL OR FLAT PAINT BRUSHES.

Quality Russia.

Made of pure foreign bristles, all white.

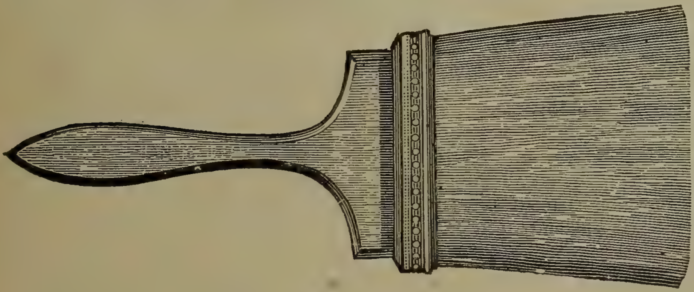


Fig. 402.

Size, Inches,	2½,	3,	3½,	4,	4½,	5,	5½,
Per Doz.,	$12.50	14.50	17.50	22.50	25.50	28.50	34.50

WALL OR FLAT PAINT BRUSHES.

Quality Stucco.

Made of pure white Russia bristles.

LEATHER BOUND.

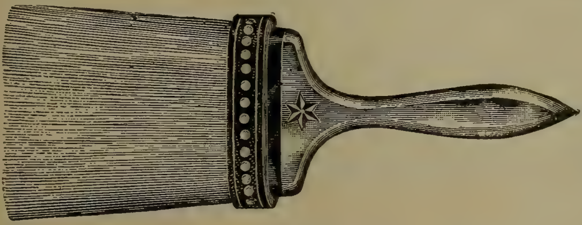


Fig. 403.

	No. 0, 3 in.	No. 1, 3½-in.	No. 2, 4-in.	No. 3, 4½-in.
Per Doz.,	$21.00	25.00	31.00	36.00

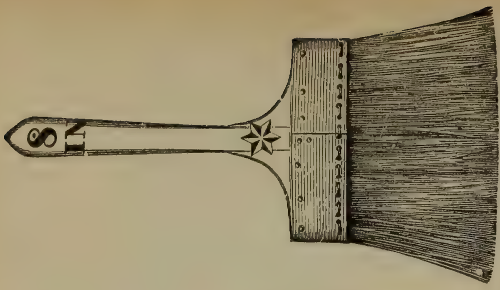


Fig 404.

KALSOMINE BRUSHES

QUALITY C-B.

Made of all white stock.

Size.	Per Doz.
6 inch	$23 00
7 “	30 00
8 “	35 00

QUALITY C-C.

Size.	Per Doz.
6 inch	$11 00
7 “	13 50
8 “	16 50

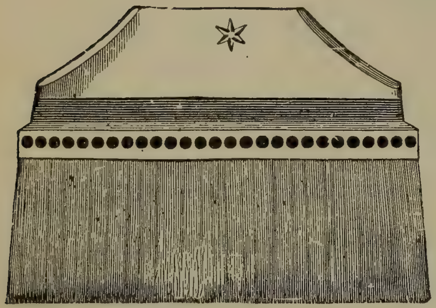


Fig. 405.

WHITEWASH HEADS.

QUALITY B.

Gray center, cased with fine white bristles.

Leather Bound.

No.	4	5	6	7	8	9	10	11	12	13	14
Width, Inches.	5	5½	6½	7	7½	8	8½	9	9½	10	10½
Per Doz.	$5.50	6.25	7.00	8.00	9.00	10.00	11.50	12.50	13.50	15.50	16.50

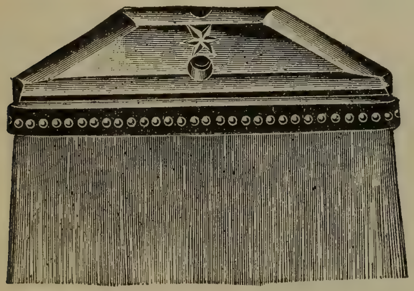


Fig. 406

WHITEWASH HEADS.

QUALITY D-C.

Made of gray mixed stock, extra long.
Cased with pure gray bristles.
Leather Bound.

No.	Width of Brush.	Per Doz.
7½	7 inch	$15 00
8	7½ “	16.50
8½	8 “	19.00
9	8½ “	21 50
9½	9 “	24.00

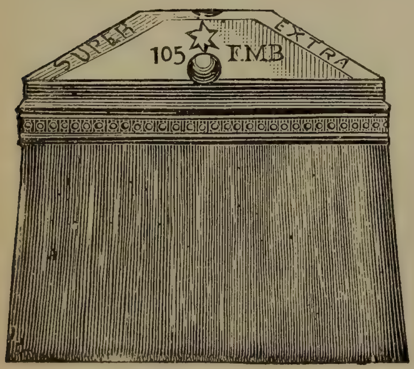


Fig. 407.

WHITEWASH HEADS.

QUALITY C-M.

All white stock, cased with fine white bristles. Will always be sent metal bound unless otherwise ordered.

No.	Width of Brush.	Per Doz.
7	7 inch	$27.00
8	8 “	33.00
9	9 “	40.00

WHITEWASH BRUSHES.

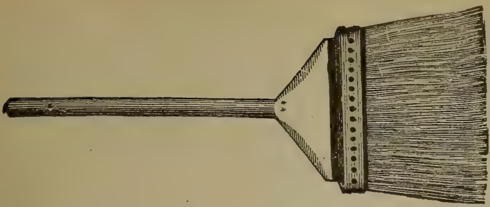


Fig. 408.

QUALITY RUSSIA.

Made of long stock, cased with unbleached Russia bristles.
Leather Bound.

Size 6	inch, . .	Per doz., $13.00
Size 7	" . .	" 16.00
Size 7½	" . .	" 19.00
Size 8	" . .	" 21.00

QUALITY B.

Made of gray mixed stock, cased with white bristles. Leather Bound.

No.	6	7	8	9	10	11	12	13	14
Width, Inches,	5½	6	6½	7	7½	8	8½	9	9½
Per. doz.,	$9.00	10.50	11.50	12.50	14.00	15.00	17.00	19.00	21.00

ROOF BRUSHES.

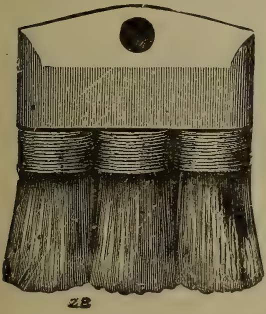


Fig. 409.

QUALITY B.

Size,	2 Knots.	3 Knots.	4 Knots.
Per doz.,	$16.80	22.50	31.00

QUALITY C.

Size,	2 Knots.	3 Knots.	4 Knots.
Per doz.,	$22.00	28.00	36.00

QUALITY EXTRA.

Size,	2 Knots.	3 Knots.	4 Knots.
Per doz.,	$33.00	44.00	58.00

Nailed flat roof brushes always in stock.

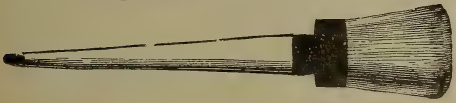


Fig. 410.

SHORT HANDLE TAR BRUSHES.

No. 0, ...	Per doz., $6.80
No. 1, ...	" 7.80

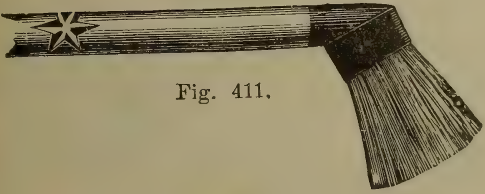


Fig. 411.

LONG HANDLE TAR BRUSHES.

No. 0, . . .	Per doz., $ 8.00
No. 1, . . .	" 10.00

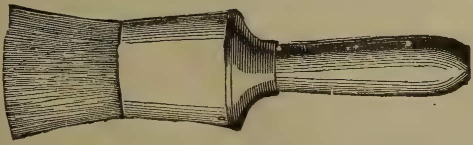


Fig. 412.

STENCIL BRUSHES.

QUALITY G.

Gray Bristles.

No.	1	2	3	4	5	6	7	8	9	10	11	12	14
Per doz.,	$1.50	1.60	1.85	2.10	2.30	2.50	2.90	3.25	3.70	4 00	4 60	5.25	8 40

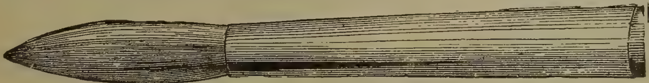


Fig 413.

MARKING BRUSHES "BEST."

Round or Flat.

Yellow Polished Handles. Nothing Better Made.

No.	1	2	3	4	5	6
Per gross,	$15.20	17.75	20.30	23.00	25.00	29.20

Assorted, 1 to 6, round or flat, ... Per gross, $25.00

PAINTERS' DUSTERS.

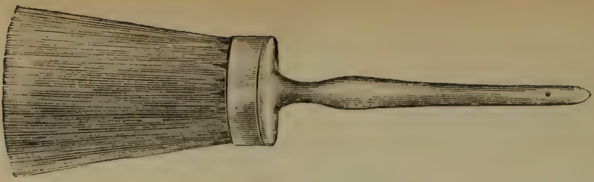


Fig. 414.

No. 17. Long stock, white outside.
Per Dozen $11.00
No. 4. All bristles, gray middle, cased with unbleached.
Per Dozen $14 75
No. 55. All white bristles, per dozen 17 50
No. 6. Gray bristles, cased with white, per dozen 23 50

DUSTING BRUSHES.

Quality A.

All bristles, gray middle, cased with white.
Polished Block.

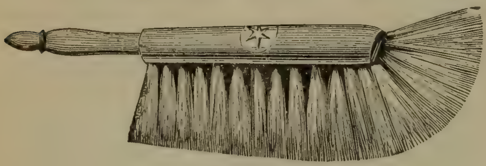


Fig. 415.

No.	1	2	3	4
Per Dozen	$6.90	$7 25	$8.75	$9.80

DUSTING BRUSHES.

Quality E.

Made on ornamental Block.
Nos. 1, 2 and 3 are gray bristles, cased with white.
" 4 and 5 are all white bristles

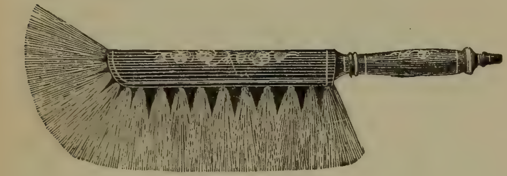


Fig. 416.

No.	1	2	3	4	5
Per Dozen	$11.00	$12.50	$15.00	$16.00	$18.75

DUSTING BRUSHES.

Quality Boston.

Gray bristles, cased with white.
Polished Boston Block.

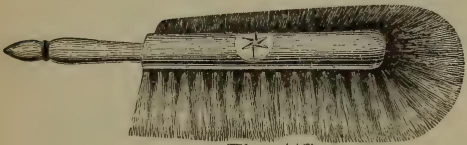


Fig. 417.

No.	1	2	3
Per Dozen	$12.00	$13.25	$14 50

FACTORY AND MILL DUSTERS.

These brushes are made of the best bristles and by best workmen, specially for Mill, Factory and Railroad use, and are very full

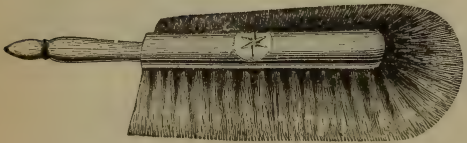


Fig. 418.

No.	1	2	3	170	62	69	70	79	78	87
Per Doz.	$8.75	11.25	30.00	23.25	31.50	35.50	35 00	40.00	41.25	45.00

DUSTING BRUSHES.

Quality W-D.

Ornamental Backs.
Wire Drawn.
All Black Hair.

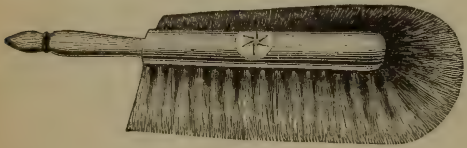


Fig. 419.

No.	71	72	73
Per Dozen	$5.75	$6.75	$7.25

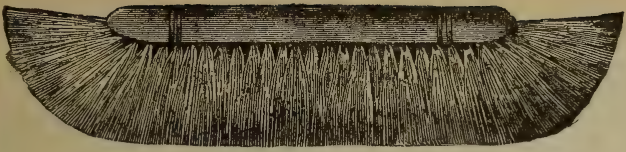


Fig. 420.

FLOOR BROOMS.

All our brooms are made on polished blocks, with threaded handles. Single or double hole blocks.

No. 22, 15 inch block	Per Dozen,	$52.50
No. 25, 12 " " heavy	" "	58.75
No. 26, 14 " " "	" "	70.00
No. 50, 14 " " " All Bristles Double Hole Block	" "	56.25
No. 60, 16 " " " " " " " "	" "	82.50
No. 70, 18 " " " " " " " "	" "	91.25
No. 300, 14 " " " for Janitors' use	" "	58.75
No. 260, 14 " " "	" "	80.00

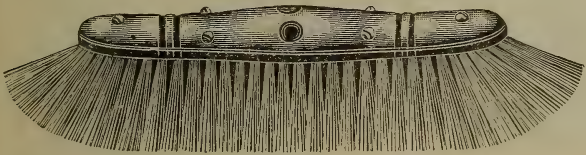


Fig. 421.

WIRE DRAWN FLOOR BROOMS.

WIRE FASTENED.

Size x 12 inch Gray middled cased with gray hair	Per Dozen,	$15.00
" x 14 " " " " " " "	" "	17.50
" x 16 " " " " " " "	" "	20.00
No. 132, 12 " blocks, all black hair, polished double hole blocks	" "	17.50
No. 134, 14 " " " " " " " " "	" "	21.50
No. 136, 16 " " " " " " " " "	" "	25.00

The following are all hair, black middle, white outside. Polished double hole blocks:

No. 112, 12 inch blocks	Per Dozen,	$23.75
No. 114, 14 " "	" "	30.00
No. 116, 16 " "	" "	33 75

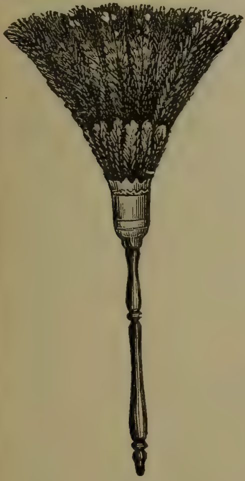


Fig. 422.

OSTRICH FEATHER DUSTERS.

BELL DUSTERS.—FULL CENTRE.

The size number designates the length of feathers in inches.

No. 5	Per doz., $ 2.50	No. 13	Per doz., $22.50
" 6	" " 3.75	" 14	" " 27.00
" 7	" " 5.00	" 15	" " 28.00
" 8	" " 6.25	" 16	" " 30.00
" 9	" " 7.50	" 18	" " 32.00
" 10	" " 11.00	" 20	" " 35.00
" 11	" " 14.00	" 22	" " 37.00
" 12	" " 18.00	" 24	" " 40.00

CARRIAGE DUSTERS.

Made very heavy for railroad cars and janitors' use.

No. 1, 11 inch	Per doz., $42.00
" 2, 13 "	" " 54.00
" 3, 15 "	" " 60.00
" 4, 17 "	" " 66.00
" 5, 19 "	" " 72.00

TURKEY FEATHER DUSTERS.

Size, inches	10	11	12	13	14	15	16	18
Per Dozen	$4.50	5.00	6.00	7.00	8.00	8.50	9.50	11.50

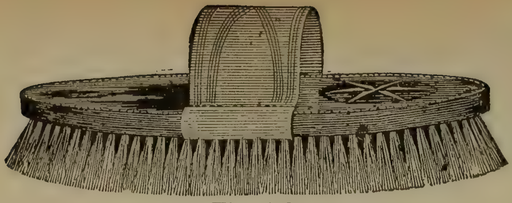


Fig. 423.

LEATHER-BACK HORSE BRUSHES.

We make any style, quality or quantity to order quickly.

No. 115.	. . . .	Per Dozen,		$4.25
" 72.	Army Pattern, round face, . . .	"	"	7.00
" 736.	"Honest" All Stump Bristles, . . .	"	"	10.00
" 230.	All Stump Bristles, ...	"	"	17.00
" 335.	All Bronze Bristles, flat face, . . .	"	"	24.00

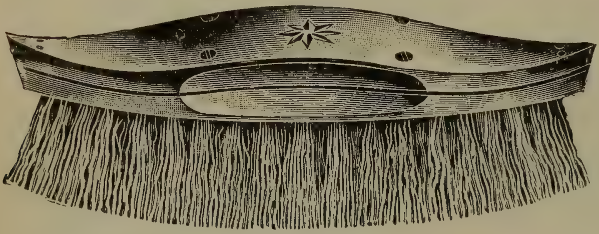


Fig. 424.

DANDY BRUSHES.

HORSES' HOOF, MANE OR TAIL BRUSHES.

No. 401.	Sea Root, ...	Per Dozen,		$2.25
" 443.	Hindoo India Fibre, ...	"	"	3.20
" 929.	Sea Root, ...	"	"	3.50
" 757.	Sea Root, packed one brush in a box, . .	"	"	5.00
" 1515.	Sea Root, packed one brush in a box, . .	"	"	5.75
" 5000.	Sea Root, Palmetto outside, one brush in a box, .	"	"	6.75

WADING PANTS AND LEGGINS.

With Boots, Rubber or Cork Soles.

COLOR—DEAD GRASS.

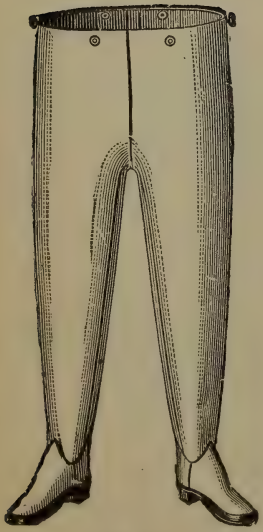


Fig. 425.

Mackintosh Pants, with Rubber Soles. Weight, 6 lbs. 5 oz., per pair, . .	$14.00
Mackintosh Pants, with Cork Soles. Weight, 6 lbs. 4 oz., per pair, . .	$14.00
Mackintosh Leggins, with Rubber Soles. Weight, 3 lbs. 14 oz, per pair, . .	$10.00
Mackintosh Leggins, with Cork Soles. Weight, 3 lbs. 12 oz., per pair, . .	$10.00
Dull Finish Wading Pants, Heavy Drill, coated on one side with Rubber, with Boots. Weight, 7 lbs., price, per pair, . .	$9.50

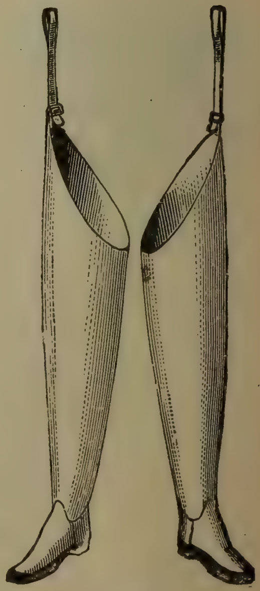


Fig. 426.

THE JEWETT PATENT FILTER AND COOLER.

FOR RAIN, RIVER, AND HYDRANT WATER. WITH NEW FILTERING BED.

COMBINES

First—A Separate Vessel containing the Filtering Medium.
Second—An Outer Case, fitted to receive said vessel, with cover.
Third—A Porcelain-Lined Cooler.

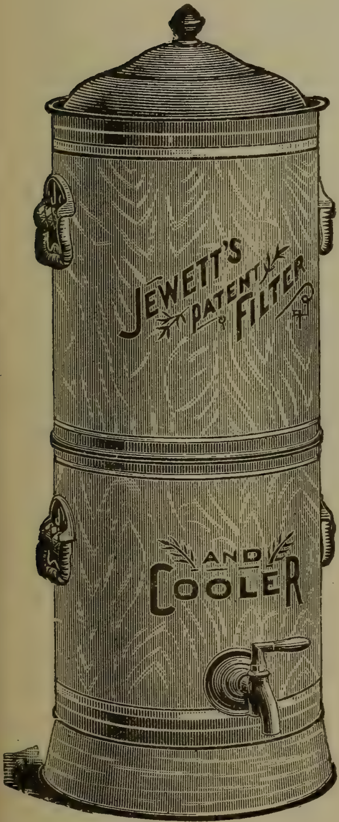


Fig. 427.-OAK GRAINED.

PRICE LIST AND DIMENSIONS.

Fig. 427.

No.	Price, Each.	Capacity Porcelain Cooler.	Extreme Height	Diam. of Base.	Weight Boxed.
161	$6 25	4¼ qts.	25 in.	10 in.	50 lbs.
162	8.25	7½ "	29 "	11½ "	65 "
163	10.00	11 "	33 "	13 "	90 "
164	12 00	16 "	36 "	15 "	125 "
165	14.00	26 "	41 "	17 "	175 "

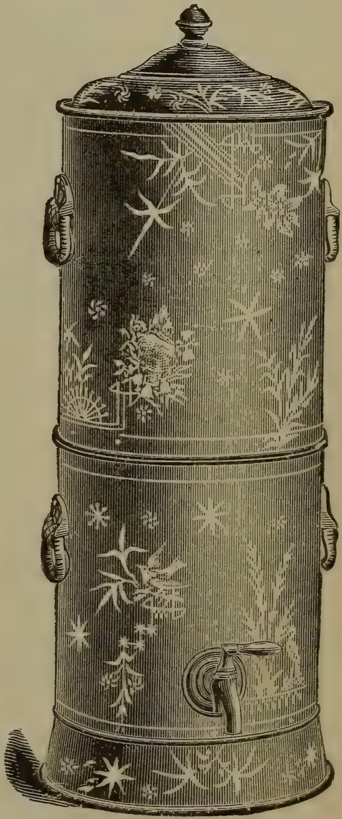


Fig. 428.—ORNAMENTAL.
Assorted Colors.

PRICE LIST AND DIMENSIONS.

Fig. 428.

No.	Price, Each.	Capacity Porcelain Cooler	Extreme Height.	Diam of Base.	Weight Boxed
171	$6.75	4¼ qts.	25 in.	10 in.	50 lbs.
172	8.75	7½ "	29 "	11½ "	65 "
173	10.50	11 "	33 "	13 "	90 "
174	12.50	16 "	36 "	15 "	125 "
175	14.50	26 "	41 "	17 "	175 "

WATER COOLERS.

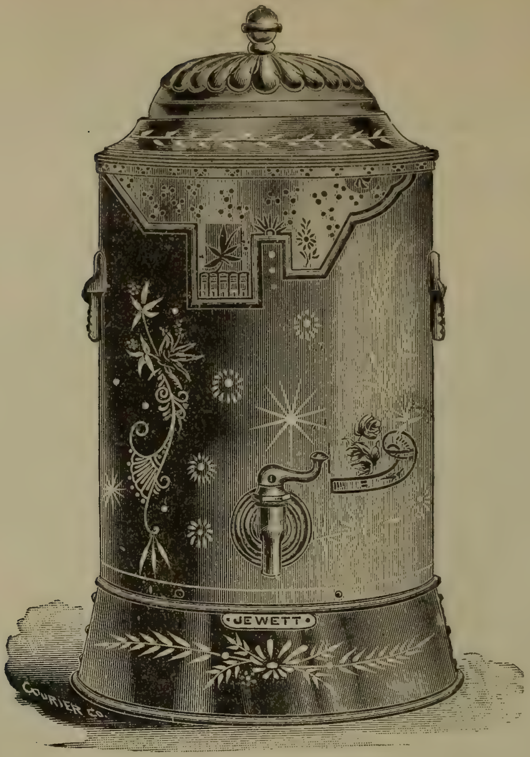


Fig. 429. **THE RUBY.**

Porcelain-Lined Reservoir, Charcoal Filled, Nickel Plated Self-Closing Faucet, Assorted Colors and Decorations.

No.	Price, Each.	Capacity.	Extreme Height.	Diameter of Base.	Weight, Boxed.
402	$4.75	2 gallons	20 inches	11½ inches	35 lbs.
403	5.50	3 "	21½ "	11½ "	40 "
404	7.00	4 "	24 "	13½ "	50 "
405	8.50	5 "	25½ "	15 "	70 "
406	9.50	6 "	26½ "	15½ "	80 "
407	10.50	7 "	28 "	16 "	85 "
408	12.50	8 "	30½ "	16½ "	90 "
410	15.00	10 "	32 "	17½ "	110 "

THE RUBY—OAK GRAINED. Same price and dimensions.

Nos. 1402 1403 1404 1405 1406 1407 1408 1410

EXTRA LARGE SIZES FOR DEPOTS, HOTELS, RESTAURANTS AND PUBLIC PLACES.

Porcelain-Lined Reservoir, Nickel-Plated Self-Closing Faucet, Charcoal Filled.

NOTE.—These Large Coolers are Painted, Decorated or Lettered, as desired, without extra charge. Please give instructions on order.

No.	Price, Each.	Capacity.	Extreme Height.	Diameter of Base.	Weight, Boxed.
12	$22.00	12 gallons	34 inches	19¼ inches	130 lbs.
14	26.00	14 "	36 "	20 "	150 "
16	32.00	16 "	38 "	20½ "	240 "
20	40.00	20 "	40 "	21½ "	270 "

NOTE.—These Coolers, with *Two Faucets*, add to List $5.00, and state on order if *Opposite* or on *Quarter*.

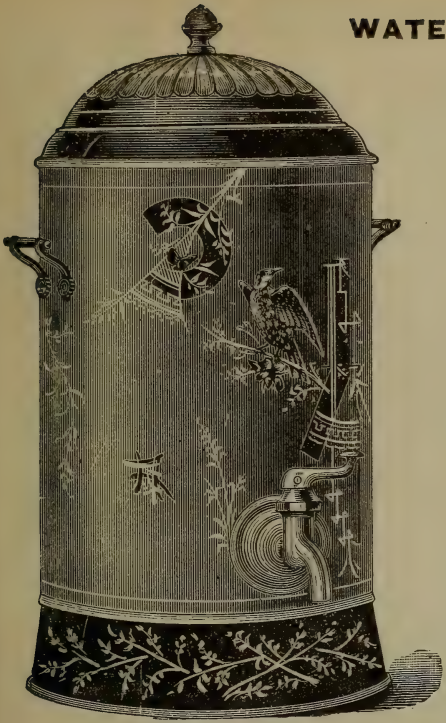


Fig. 430.

WATER COOLERS.

THE DAKOTA.

Galvanized Iron Reservoir, Charcoal Filled, Nickel-Plated Self-Closing Faucet, Assorted Colors and Decorations.

No.	Price Each.	Capacity.	Extreme Height	Diameter of Base.
702.	$3.00	2 gallons	19¼ in.	10½ in.
703.	3.75	3 "	21 in.	11 in.
704.	4.30	4 "	23 in.	12 in.
706.	5.16	6 "	24½ in.	15 in.
708.	6.25	8 "	28½ in.	16¼ in.
710.	7.25	10 "	31½ in.	16¾ in.
712.	8.25	12 "	32¾ in.	18 in.

OAKED GRAINED.

Same Price and Dimensions.

No. 702.	Weight Boxed,	. . .	20 lbs.
No. 703.	" "	. . .	24 "
No. 704.	" "	. . .	30 "
No. 706.	" "	. . .	40 "
No. 708.	" "	. . .	50 "
No. 710.	" "	. . .	65 "
No. 712.	" "	. . .	70 "

COOLER STAND AND DRAINER.

Grained Mahogany or Oak, Cast Iron Top and Feet, Hard Maple Post; can be taken apart to pack.

MAHOGANY GRAINED.

No	Price Each.	Diameter of Top Inside Rim. Inches.	Extreme Height. Inches.	Shipping Weight.
3	$3.50	12½	27	65 lbs.
4	4.00	15	27	75 "
5	5.00	18	27	85 "

Oak Grained same Price and Dimensions.

RED OAK STAND AND DRAINER.

Square Cast-Iron or Oak Top, Finished Antique Oak, four legs.

No.	Size Top, Inside Rim.	Price Each.
116	16 inches square,	$ 8.00
119	18¾ " "	9.00
122	22 " "	10.50

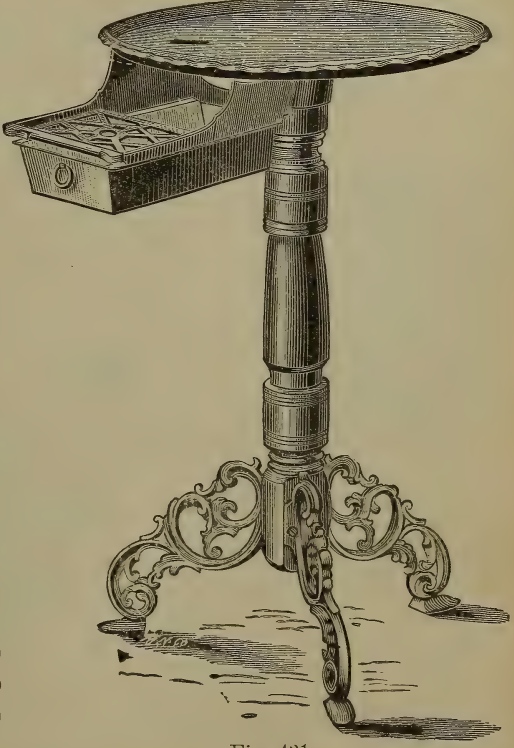


Fig. 431.

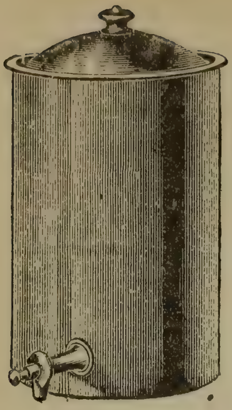


Fig. 432.

INDURATED FIBRE ICE WATER JARS.

Perfectly Plain Jar with Nickel Plated Self-closing Faucet.

No.					Per Dozen.
4.	9 in. diam ,	11 in. high inside			$13.80
5.	9	"	13	" "	16.80
6.	12	"	10½	" "	19.80
8.	12	"	12	" "	22.80
10.	12	"	14	" "	25.80

Nos. 4 and 5 are packed quarter dozen in crate. Nos. 6, 8 and 10 packed one-sixth dozen in crate.

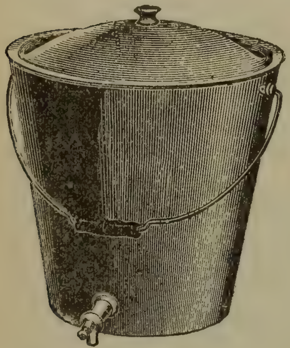


Fig. 433.

INDURATED FIBRE ICE WATER BUCKET.

Perfectly Plain, with Self-closing Faucet.

No.						Per Dozen.
4.	11 in. diam. at top,		9 in. deep inside			$9.00
5.	11	"	"	11	" "	12.00
6.	12½	"	"	13	" "	15.00

Packed one quarter dozen in a crate.

Or nested one each size in a crate. Per nest, $3.00.

INDURATED FIBRE PAILS.

		Per Dozen.	Crate Contains.
Star, Standard Size	12 quarts	$3.00	½ dozen
Deck, Heavy Bail and Ears,	12 "	3.60	½ "
Railroad	14 "	4.20	½ "
Factory	14 "	4.20	½ "

Covers, for Star, Railroad or Round Bottom pails, $1.60 doz

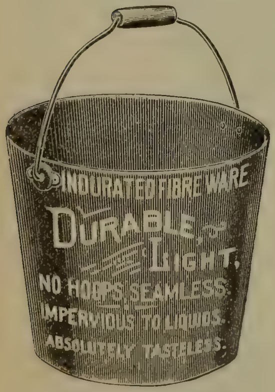

INDURATED FIBRE WARE
DURABLE,
LIGHT,
NO HOOPS, SEAMLESS.
IMPERVIOUS TO LIQUIDS.
ABSOLUTELY TASTELESS.

Fig. 434.—Star.

Pails, Stenciled "For Fire Only."

		Per Doz.
Star	12 quarts	$3.20
Railroad	14 "	4.20
Factory	14 "	4.20
Round Bottom	12 "	4.20
Deep	10 "	4.80

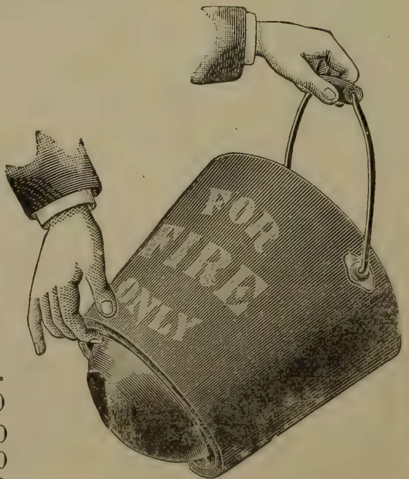


Fig. 435.—Round Bottom Fire Pail.

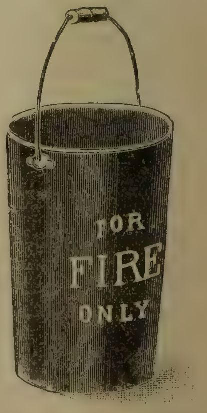


Fig. 436.—Deep Fire Pail. To hang up.

Red band painted around top of any above Fire Pails, add to list price 60 cents per dozen.

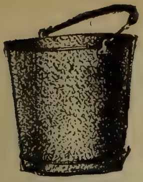


Fig. 437.

GALVANIZED FIRE BUCKETS.

No.	10	12	14	16
Quarts	10	12	14	16
Per Dozen	$4.50	$5.00	$5.50	$7.50

Painted Red, $1.00 per Dozen Net Extra.

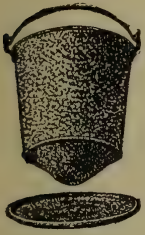


Fig. 438.

GALVANIZED ROUND BOTTOM FIRE BUCKETS.

No.	410	412	414
Quarts	10	12	14
Per Dozen	$6.75	$7.25	$7.50

Painted Red, $1.00 per Dozen Net Extra.

COVERS FOR GALVANIZED FIRE BUCKETS.

No.	10	12	14	16
Per Dozen.	$2.00	$2.25	$2.50	$3.00

Painted Red, 25c. per Dozen Net Extra.

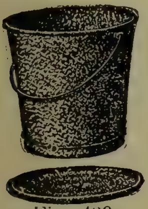


Fig. 439.

GALVANIZED PAILS.

Heavy.
With Iron-clad Bottom.

No.	210	212	214	216	220
Quarts	10	12	14	16	20
Per Dozen	$5.50	$6.00	$6.25	$9.50	$16.00

COVERS FOR GALVANIZED PAILS.

No.	210	212	214	216	220
Per Dozen	$2.00	$2.25	$2.50	$3.00	$4 00

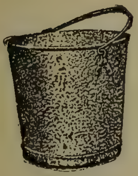


Fig. 440.

GALVANIZED PAILS.

Extra Heavy.

Heavy Wrought Iron Ears. Bottom Reinforced with Band Iron Straps

No.	314
Quarts	14
Per Dozen	$12.00

COVERS FOR EXTRA HEAVY GALVANIZED PAILS.

No.	314
Per Dozen	$2.50

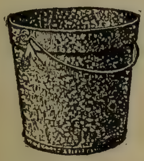


Fig 441.

MORTAR OR CEMENT PAILS.

Aqueduct Pattern.
Galvanized.

No.	614
Quarts	14
Per Dozen	$26.00

BLACK IRON.

No.	624
Quarts	14
Per Dozen	$24.00

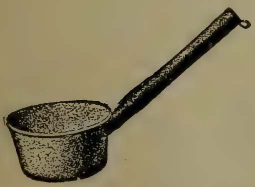


Fig. 442.

GALVANIZED DIPPERS.

No.	10	20
Quarts	1	2
Inches	5½x2½	6¼x2¾
Per Dozen	$1.38	$1.58

Case Lots, 1 Gross of a Size.

ENAMELED DRINKING CUPS.

No.	8	9	10	11	12
Inches	3¾x1⅝	4x1⅞	4¼x2⅛	4⅝x2½	5¼x2½
Per Dozen	$2.75	$3.00	$3.50	$4.75	$4.50

Case Lots, 12 dozen of a size.

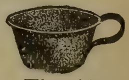


Fig. 443

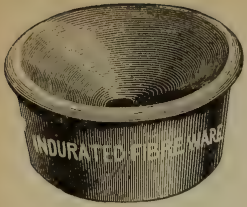


Fig. 444.

INDURATED FIBRE SPITTOONS.

ALL FIBRE.

		Per Doz.	Crate Contains
No. 1.	5½ in. high, 13 in. diam.,	$6.00	½ doz.
" 2.	5¼ " " 11 " "	4.80	½ "
" 3.	4½ " " 9 " "	4.20	½ "
Nested, one each size,	per nest,	1.25	2 nest
No. 1.	Tops alone,	2.00	2 doz.
" 2.	" "	1.80	2 "
" 3.	" "	1.60	2 "

The cover lifts off.

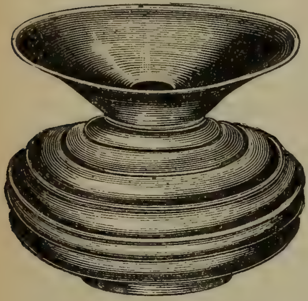


Fig. 445.

BRASS CUSPIDORS.

SELF RIGHTING CUSPIDORS.

Patented.

No.		Per. Dozen
1.	Polished Brass, 6½ in. diameter, 4¾ in. deep,	$8.00
1.	Nickel Plated, " " " "	9 00
2.	Polished Brass, 7½ in. diameter, 5¾ in. deep,	10.50
2.	Nickel Plated, " " " "	12.00
3.	Polished Brass, 8½ in. diameter, 6½ in. deep, Hotel Sizes	18.00
3.	Nickel Plated, " " " " " "	20.00
4.	Polished Brass, 11½ in. diameter, 6¾ in, " " "	24.00
4.	Nickel Plated, " " " " " "	27.00

DEEP PATTERN.

No.			Per Dozen.
14.	Brass,	8½ x 5½ in.,	$15.50
14.	Nickel	8½ x 5½ in.,	17.00
20.	Brass,	11½ x 6 in.,	20.00
20.	Nickel,	11½ x 6 in.,	22.50

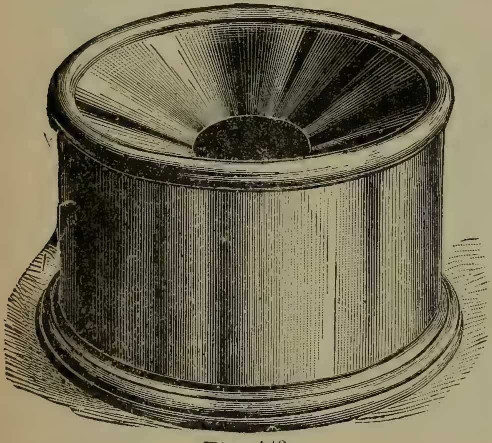


Fig. 446.

EMBOSSED PATTERN.

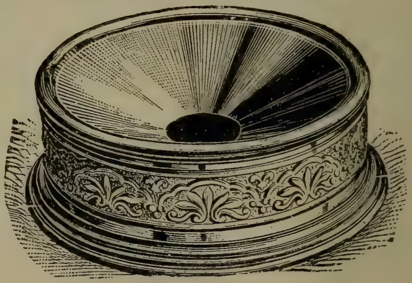


Fig. 447.

No.			Per Dozen.
10.	Brass,	7½ x 3 in.,	$9.00
10.	Nickel,	7½ x 3 in.,	10.00
12.	Brass,	8½ x 3 in.,	12.00
12.	Nickel,	8½ x 3 in.,	13.50

RAILROAD CAR PATTERN.

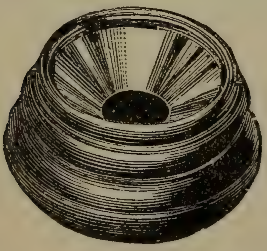


Fig. 448.

No. 15. 7 in. diameter, 4 in. deep.

	Per Doz.
Nickel,	$15.00
Brass,	13.50

ENAMELED HOTEL SPITTOONS.

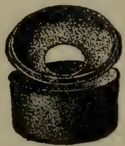


Fig. 449.

No.	20
Inches,	9¼ x 4
Per doz.,	$15.00

"Case Lots," 2 doz.

ENAMELED CUSPIDORS.

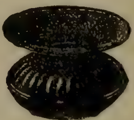


Fig. 450.

No.	2	3
Inches,	7 x 4	8 x 4½
Per doz.,	$8.00	$9.00

" Case Lots," 2 doz. of a size.

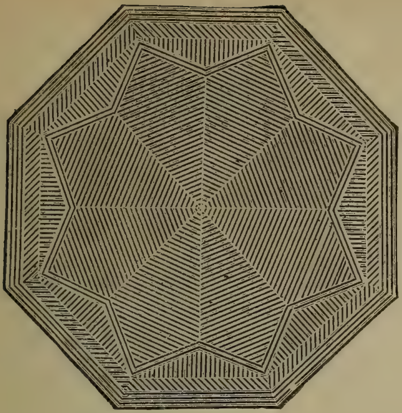


Fig. 451.

CORRUGATED CUSPIDOR OR PITCHER MAT.

			Per Dozen
No. 1.	10 inches in diameter,	. . .	$ 5.00
No. 2.	12 " "	. . .	7.00
No. 3.	15 " "	. . .	9.00
No. 4.	18 " "	. . .	11.00

These Mats can be made with heavy raised border, at slight additional cost.

DIAMOND MATS.

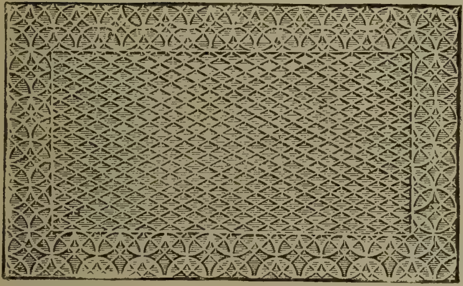


Fig. 452. WITH BORDER.

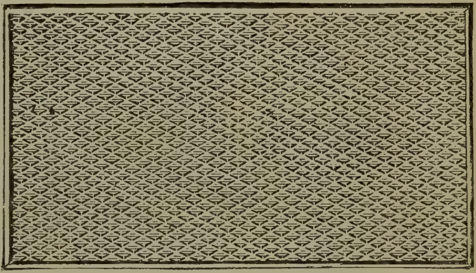


Fig. 453. WITHOUT BORDER.

RUBBER CORRUGATED STAIR TREADS.

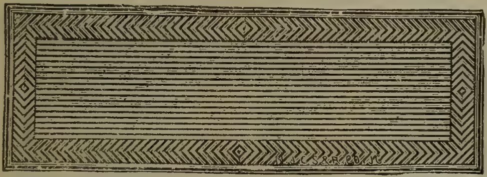


Fig. 454. OLD PATTERN.

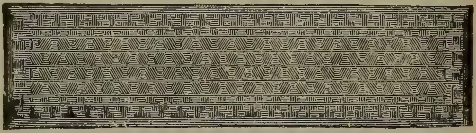


Fig. 455. NEW PATTERN.

OLD OR NEW PATTERN.

No.	Size Inches.	Per doz. 1-8 in. Thick.	Per doz. 3-32 in. Thick.
1	4 x 23	$3.35	$2.75
2	4 x 24	3.50	3.00
3	4 x 29	5.50	4.70
3½	5 x 40	7.35	6.00
4	6 x 18	4.00	3.30
5	6 x 20	4.40	3.60
6	6 x 24	5.25	4.35
7	6 x 48	10.20	8.50
8	7 x 18	4.60	3.75
9	7 x 24	6.00	5.00
10	7 x 28	7.00	5.85
11	7 x 40	10.00	8.30
12	7½ x 20	5.50	4.50
13	7½ x 42	$11.00	$ 9.10
14	7½ x 48	12.50	10.40
15	8 x 18	5.25	4.35
16	8 x 20	5.85	4.80
17	8 x 22	6.60	5.50
18	8 x 24	7.00	6.00
19	8 x 27	7.90	6.48
20	8 x 30	8.80	7.20
21	8 x 35	10.25	8.40
22	8 x 36	10.55	8.65
23	8 x 52	14.60	12.15
24	9 x 18	5.95	4.85
25	9 x 23½	7.75	6.35
26	9 x 28	$ 9.24	$ 7.55
27	9 x 32¾	10.80	8.85
28	9 x 35	11.55	9.45
29	9 x 36	11.85	9.75
30	9 x 40	12.50	10.40
31	9 x 48	15.00	12.50
32	9 x 54	16.80	14.00
33	9 x 56	18.50	15.10
34	10 x 24	8.40	7.00
35	10½ x 56	21.55	17.65
36	11 x 56	22.60	18.50
37	12 x 36	15.85	13.00
38	12 x 45	19.80	16.20

NEW PATTERN ONLY.

No.	Size Inches.	Per doz. 1-8 in. Thick.	Per doz. 3-32 in. Thick.
39	6 x 22	$4.85	$4.00
40	9 x 24	7.90	6.50
41	9 x 34	11.20	9.25
42	9 x 30	$9.90	$8.10
43	9 x 27	8.90	7.30
44	7 x 29	7.45	6.10
45	5 x 16	$2.90	$2.40
46	6 x 20½	4.50	3.75

NEW PATTERN MATTING.

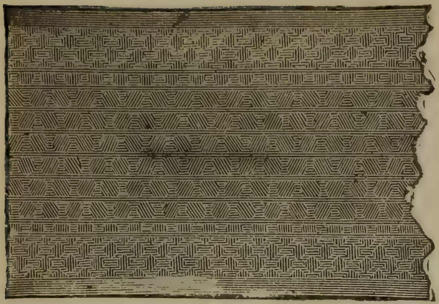


Fig. 456

Made in rolls about forty yards long. With border it is one yard wide. Without border three quarters yard wide. Cut to order any length.

Price . . . . . per lb., $0.40

3-32	inch thick, weighs	7½	lbs. per sq. yard.
1-8	" " "	9½	" " " "
3-16	" " "	14½	" " " "
1-4	" " "	19	" " " "
5-16	" " "	24	" " " "
3-8	" " "	28½	" " " "
7-16	" " "	33	" " " "
1-2	" " "	38	" " " "

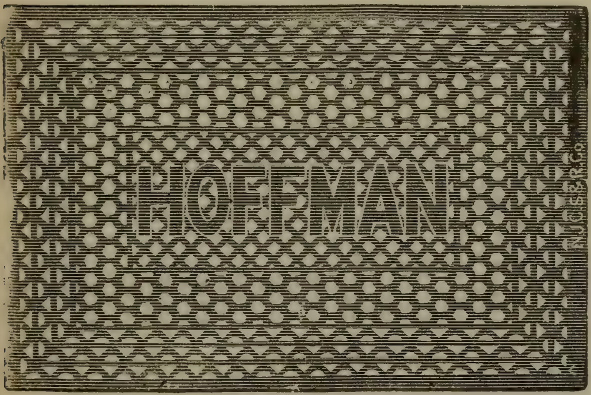


Fig. 457.

PERFORATED MATS.

PLAIN OR CORRUGATED.

NO. 1, OR HEXAGON.

CRESCENT BORDER.

¼ inch thick . .	per sq. ft.	$0.75
⅜ " " . .	" " "	1.00
½ " " . .	" " "	1.25

Lettering, 25 cents per letter extra. Red or white letters 50 cents per letter extra. Small sizes carried in stock. Mats made to order of any size or shape.

MONOGRAM MATS MADE TO ORDER.

Prices on Application.

Sketch Submitted if Desired.

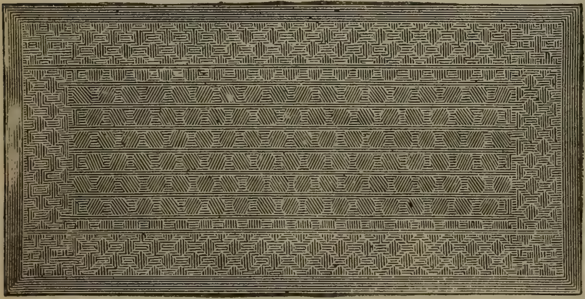


Fig. 458.

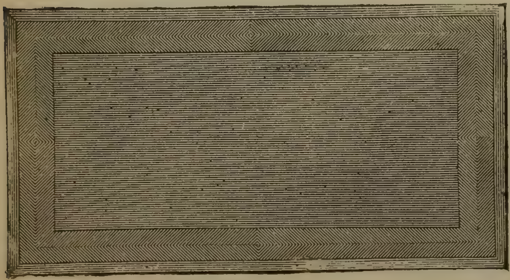


Fig. 459.
OLD PATTERN.

CORRUGATED RUBBER MATS.

NEW PATTERN. ⅛ INCH THICK.

NO.	INCHES	PER DOZ.	NO.	INCHES	PER DOZ.
00	15x 15	$9.00	16	24 x 34	$27.25
0	18x 18	11.00	17	17 x 29	16.75
1	17x 31	18.50	18	22½x 36	27.90
1½	24x 24	20.00	19	24 x 48	40.00
2	23x 36	28.50	20	25⅝x 54¾	46.75
3	24x 70	56 50	21	20 x 30	20.00
4	24x108	86.00	22	36 x156	205.75
5	24x120	96.00	23	24 x 72	63.35
6	16x 32	18.00	24	36 x 77	101.65
7	18x 36	21.50	25	19 x 36	25.10
8	38x 48	61.00	26	16 x 30	17.60
9	42x 96	135.00	27	36 x 40	52.80
10	42x 48	63.00	28	37 x 41¾	56.60
11	24x186	150.00	29	28 x 42	43.10
12	36x 72	87.00	30	31 x 42	47.75
13	18x 54	33.00	31	36 x 42	55.45
14	36x 96	116.00	32	24 x 60	52.80
15	32x113	122.00	33	14½x 24	12.75

In stock or made to order at short notice. Any size Mats varying from the ones on the Price List can be made by special order, with a slight advance charge for the first dozen.

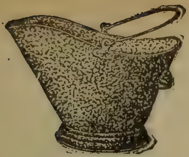


Fig. 460.

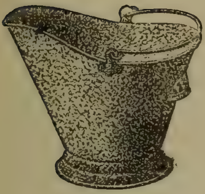


Fig. 461.

IMPROVED "SPECIAL" COAL HODS.

JAPANNED OPEN TOP.

No.	05	06	07	08
Inches	15	16	17	18
Price per dozen,	$8.25	$8.75	$9.50	$10.00

GALVANIZED OPEN TOP.

No.	015	016	017	018
Inches	15	16	17	18
Price per Dozen	$11.50	$12.50	$13.50	$14.50

EXTRA HEAVY COAL HODS.

JAPANNED.

No.	315	316	317	318
Inches,	15	16	17	18
Price per Dozen	$8.25	$8.75	$9.50	$10.00

GALVANIZED.

No.	415	416	417	418
Inches	15	16	17	18
Price per Dozen	$11.50	$12.50	$13.50	$14.50

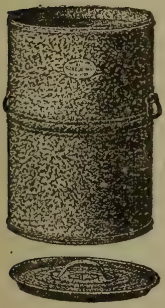


Fig. 462.

GALVANIZED ASH CANS.

No.	2½	3	4	5	6
Inches	14x19	15x26	17x26	18x26	20x26
Each	$4 00	$4.50	$5.25	$5.50	$6 50

COVERS.

No.	2½	3	4	5	6
Per Dozen	$7.50	$8.50	$9.50	$10.00	$10.50

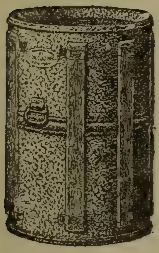


Fig. 463.

GALVANIZED ASH CANS.

WITH EIGHT WOOD STRAPS.

No.	7	8	9	10
Inches	15x26	17x26	18x26	20x26
Each	$5.25	$6.00	$6.25	$7.25

COVERS.

No.	7	8	9	10
Per Dozen	$8 50	$9.50	$10.00	$10.50

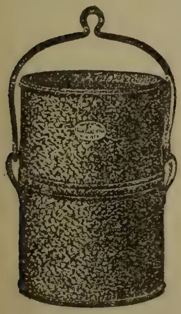


Fig. 464.

GALVANIZED ASH CANS.

WITH HEAVY BAIL FOR HOISTING.

No.	250	300	400	500	600
Inches	14x19	15x26	17x26	18x26	20x26
Each	$5.50	$6.50	$7.25	$7.50	$8.50

WITH EIGHT WOOD STRAPS.

No.	70	80	90	100
Inches	15x26	17x26	18x26	20x26
Each	$7.25	$8.00	$8.25	$9.25

ENGINEERS' ASH CAN.

STEEL THROUGHOUT.

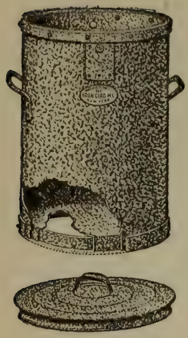


Fig. 465.

JAPANNED.

No.	35	45	55	65
Inches	15 x 24	17 x 24	18 x 24	20 x 24
Weight	34 lbs.	40 lbs.	42 lbs.	47 lbs
Each	$8.75	$9.25	$10.00	$11.50

GALVANIZED.

No.	305	405	505	605
Inches	15 x 24	17 x 24	18 x 24	20 x 24
Weight	37 lbs.	43 lbs.	45 lbs.	50 lbs.
Each	$11.00	$11.75	$12.25	$14.50

COVERS.

Heavy, Cone Shape, Fitting Outside.

GALVANIZED.

Inches	15	17	18	20
For Cans, Nos.	35 and 305	45 and 405	55 and 505	65 and 605
Each	$1.25	$1.35	$1.50	$1.75

This can is made of steel throughout, with heavy forged stationary handles, and reinforced eye-holes, for the purpose of handling the can with "block and fall," if required. No stronger Can has ever been made.

TOWN IMPROVEMENT WASTE CANS.

Fig. 466.

Galvanized and Painted Dark Green Outside. Also used about Railroad Stations, Offices, and other Large Buildings.

No.	Diam.	Height.	Price Each.
3	15 in.	30 in.	$2.50
4	17 "	30 "	2 75
6	20 "	30 "	3.00

The height given does not include the hood cover. Lettered in white, extra per can, 25 cents.

These cans are made of steel, galvanized after they are made, and painted dark green on the outside. The bottoms are stamped from one piece of metal, reinforced with heavy hoop, and perforated to prevent accumulation of rain water. Half hood cover and solid ring for attaching can by means of chain to lamp-post or other fixture.

GALVANIZED OIL WASTE CANS.

Self-Closing Cover. With Improved Spring Attachment.

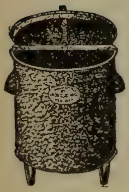


Fig. 467.

ROUND.

No.	1
Inches	11¼ x 15
Per Dozen	$18.00

MADE TO ORDER ONLY.

ROUND.

No.	2	3	4	5	6	7	8
Inches	12 x 18	13 x 20	14 x 22	16 x 24	18 x 26	20 x 30	24 x 36
Dozen	$24.00	$28 00	$36.00	$42.00	$56.00	$90.00	$130.00

These Oil Waste Cans are made without the use of solder and are galvanized after being put together. They are recommended by the leading Insurance Companies.

GALVANIZED OIL CANS.

N. Y. C. & H. R. R. R. Pattern.

Brass Screw Cap.

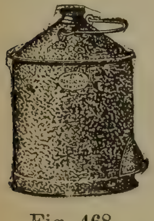


Fig. 468.

No.	1	2	3	5
Diameter, inches	6¼	8	9	10¼
Height, body, inches	7	9	10	12
" Conetop, "	2½	2¾	3	3½
Gallons	1	2	3	5
Each	$2.30	$2.40	$2.80	$3.00

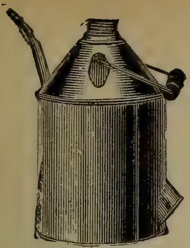


Fig. 469.

KEROSENE OIL CANS.

WITH SPOUTS AND SCREW TOPS.

SEAMLESS BREASTS.

Quarts	1	2	4	4.IX
Price Each $				

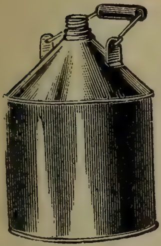


Fig. 470.

KEROSENE OIL CANS.

WITHOUT SPOUTS. SCREW TOPS.

Gallons	1	2	3	5	10
Price Each $					

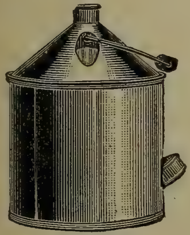


Fig. 471.

KEROSENE OIL CANS.

WITHOUT SPOUTS. CORKS.

Gallons .	1	2	3	5	10
Price Each $					

GALVANIZED IRON ROUND CANS.

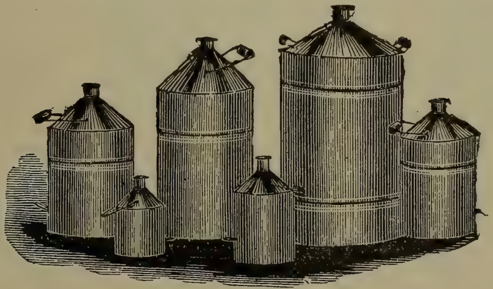


Fig. 472.

Made out of No. 26 BB Galvanized Iron.

VERY STRONG. WELL MADE.

Gallons .	½	1	2	3	5	10
Price Each .	$0.30	.50	.70	.85	$1.00	$1.50

PLAIN ROUND CANS.

Gallons .	¼	½	1	2	3	5
Price Each, .	$0 14	.17	.20	.30	.40	.50

5 Gallon, Wood Bottom	Price Each,	$0.60
10 " " "	" "	1.10

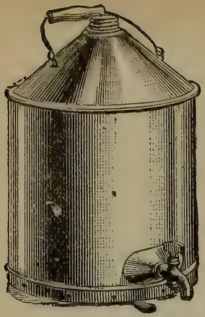


Fig. 473.

GALVANIZED IRON FAUCET CANS.

Made of No. 26 BB Galvanized Iron. Well Made.

5	Gallon, Screw Top, $\frac{3}{8}$ inch T Faucet	$1.50
10	" " " $\frac{3}{8}$ " " "	2.25
3	" " " Compression Faucet . .	1.00
5	" " " " " . . .	1.25
10	" " " " " . .	2.00

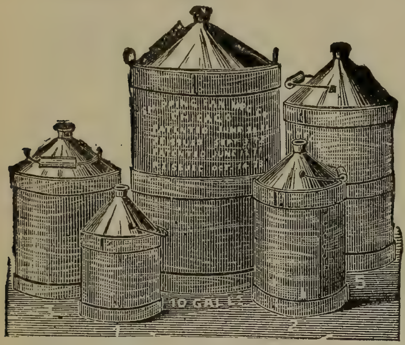


Fig 474.

CONE TOP JACKET TRANSPORTATION CANS.

1	gallon	$0.40
2	"	.50
3	"	.60
5	" Vented	.75
10	" "	1.20

STORING OIL CANS.

Special Sizes Made to Order.

GALVANIZED.

No.	15	20	30	40	50	60	80	100
Inches,	14x24	15¼x27	18⅛x28	18⅛x37	18⅛x45	20½x43	22½x48	22½x60
Gallons,	15	20	30	40	50	60	80	100
Each,	$6.25	7.00	8.00	9.00	9.25	10.50	11.50	13.50

TIN.

No.	15	20	30	40	50	60	80	100
Gallons,	15	20	30	40	50	60	80	100
Each,	$5.00	5.75	6.75	7.75	8.00	9.25	10.25	12.25

Japanning Tin Cans, $1.25 Each Net.

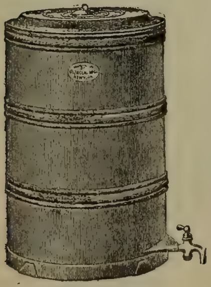


Fig. 475.

IXXXX Tin Cylinder—No. 18 Gauge. Steel Bottom. Brass Cocks.

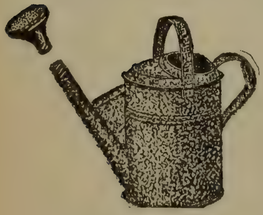


Fig. 476.

GALVANIZED WATER POTS.

REGULAR PATTERN.

Cylinder and Spout Stamped in One Piece.

No.	4	6	8	10	12	16	20
Quarts,	4	6	8	10	12	16	20
Per Doz.,	$9.00	12.00	15.00	18.00	21.00	24.00	42.00

GALVANIZED WATER CARRIERS.

No.	810	812	814	816	820
Quarts,	10	12	14	16	20
Per Dozen,	$8.25	$10.25	$12.00	$14.50	$22.50

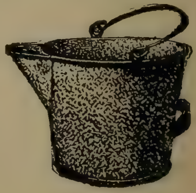
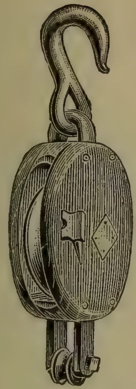


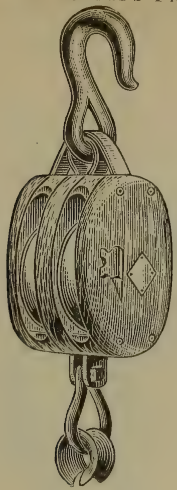
Fig. 477.

REGULAR INSIDE IRON STRAPPED BLOCKS.

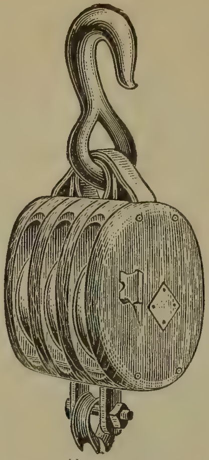
HARCOURT'S PATENT.



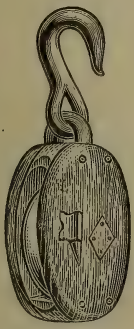
SINGLE.
Loose Hook and Becket.
Fig. 478.



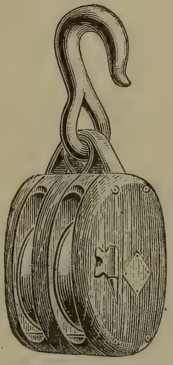
DOUBLE.
Loose Hook and Becket.
Fig. 479.



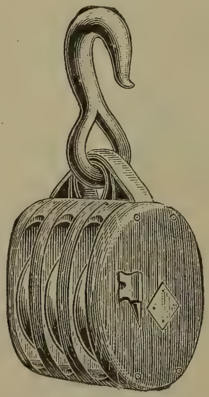
TRIPLE.
Loose Hook and Becket.
Fig. 480.



SINGLE—Loose Hook.
Fig. 481.



DOUBLE—Loose Hook.
Fig. 482.

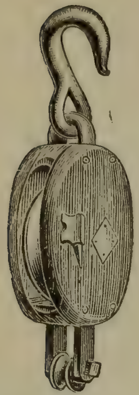


TRIPLE--Loose Hook.
Fig. 483.

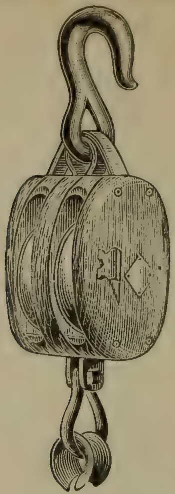
DIMENSIONS.			IRON BUSHED.			IMPROVED ROLLER BUSHED.			NET EXTRA FOR GALVANIZED STRAPS.		
Size Sheave.	Dia. Rope.	Size Shell.	Single	Double	Triple	Single	Double	Triple	Single	Double	Triple
1¾ x ½ x ⅜	⅜	3 in.	$ 0.70	$ 1.30	$ 1.75	$ 1.10	$ 2.00	$ 2.90	$ 0.04	$ 0.06	$ 0.10
2 x ½ x ⅜	⅜	3½ "	.75	1.45	2.00	1.15	2.20	3.15	.04	.06	.10
2¼ x ⅝ x ⅜	½	4 "	.85	1.60	2.15	1.20	2.25	3.25	.05	.07	.11
3 x ¾ x ⅜	⅝	5 "	.90	1.75	2.25	1.25	2.35	3.50	.06	.08	.12
3½ x 1 x ½	¾	6 "	1.10	2.00	2.90	1.50	2.85	4.40	.10	.12	.15
4¼ x 1 x ½	⅞	7 "	1.30	2.40	3.50	1.70	3.35	5.00	.12	.15	.18
4¾ x 1⅛ x ⅝	1	8 "	1.65	2.85	4.25	2.25	4.15	6.00	.16	.21	.30
5¾ x 1⅛ x ⅝	1	9 "	1.85	3.40	4.75	2.50	4.70	7.25	.22	.28	.38
6¼ x 1¼ x ⅝	1⅛	10 "	2.75	4.50	6.25	3.50	6.00	8.50	.28	.38	.50
7¼ x 1¼ x ¾	1⅛	11 "	4.45	7.50	10.65	5.30	9.20	13.20	.35	.45	.60
8 x 1⅜ x ¾	1¼	12 "	4.45	7.50	10.65	5.30	9.20	13.20	.35	.45	.60
9 x 1½ x ¾	1¼	13 "	7.00	10.50	15.00	8.15	12.80	18.45	.55	.75	1.00
9½ x 1⅝ x ⅞	1⅜	14 "	7.00	10.50	15.00	8.15	12.80	18.45	.55	.75	1.00
10 x 1⅝ x ⅞	1½	15 "	8.00	13.00	18.00	9.25	15.50	21.75	.75	.95	1.25
11 x 1¾ x ⅞	1⅝	16 "	10.00	15.00	22.00	11.50	18.00	26.50	.85	1.20	1.50

REGULAR INSIDE IRON STRAPPED BLOCKS.

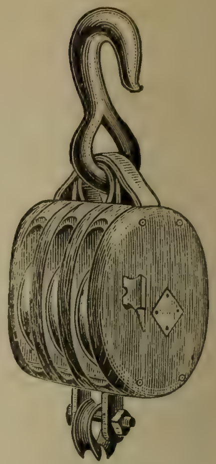
HARCOURT'S PATENT.



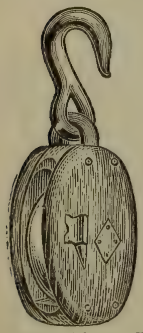
SINGLE.
Loose Hook and Becket.
Fig. 484.



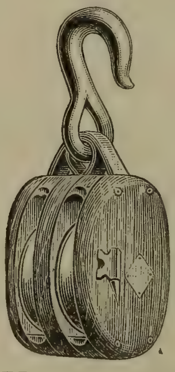
DOUBLE.
Loose Hook and Becket.
Fig. 485.



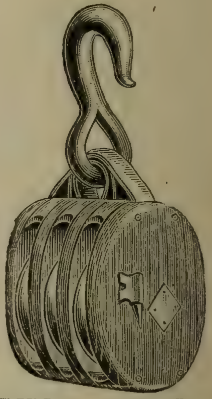
TRIPLE.
Loose Hook and Becket.
Fig. 486.



SINGLE. - Loose Hook.
Fig. 487.



DOUBLE. - Loose Hook.
Fig. 488.



TRIPLE. - Loose Hook.
Fig. 489.

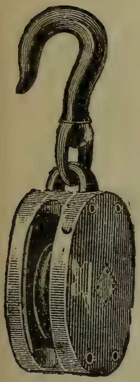
DIMENSIONS.			PHOSPHOR BRONZE OR METALINE BUSHED SELF-LUBRICATING.			NET EXTRA FOR GALVANIZED STRAPS.		
Size Sheaves.	For Dia Rope.	Size Shell.	Single.	Double.	Triple.	Single.	Double.	Triple.
$2\frac{1}{4}$x $\frac{5}{8}$x$\frac{3}{8}$	$\frac{1}{2}$	4 inches.	$1.50	$2.90	$4.15	$0.05	$0.07	$0.11
3 x $\frac{3}{4}$x$\frac{3}{8}$	$\frac{5}{8}$	5 "	1.75	3.35	4.75	.06	.08	.12
$3\frac{1}{2}$x1 x$\frac{1}{2}$	$\frac{3}{4}$	6 "	2.20	4.00	5.80	.10	.12	.15
$4\frac{1}{4}$x1 x$\frac{1}{2}$	$\frac{7}{8}$	7 "	2.50	4.50	6.70	.12	.15	.18
$4\frac{3}{4}$x$1\frac{1}{8}$x$\frac{5}{8}$	1	8 "	3.25	5.70	8.50	.16	.21	.30
$5\frac{3}{4}$x$1\frac{1}{8}$x$\frac{5}{8}$	1	9 "	3.70	6.75	10.00	.22	.28	.38
$6\frac{1}{4}$x$1\frac{1}{4}$x$\frac{5}{8}$	$1\frac{1}{8}$	10 "	4.75	8.50	12.50	.28	.38	.50
$7\frac{1}{4}$x$1\frac{1}{4}$x$\frac{3}{4}$	$1\frac{1}{8}$	11 "	6.75	12.50	18.50	.35	.45	.60
8 x$1\frac{3}{8}$x$\frac{3}{4}$	$1\frac{1}{4}$	12 "	6.75	12.50	18.50	.35	.45	.60
9 x$1\frac{1}{2}$x$\frac{3}{4}$	$1\frac{1}{4}$	13 "	9.75	17,00	25.00	.55	.75	1.00
$9\frac{1}{2}$x$1\frac{5}{8}$x$\frac{7}{8}$	$1\frac{3}{8}$	14 "	9.75	17.00	25.00	.55	.75	1.00
10 x$1\frac{5}{8}$x$\frac{7}{8}$	$1\frac{1}{2}$	15 "	11.00	19.50	28.50	.75	.95	1.25

We recommend the Self-Lubricating Bushed Blocks for rapid and heavy work. They work smoothly, with little wear or friction, and in points of easy running and durability soon pay for their increased cost.

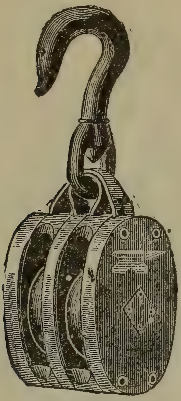
TACKLE BLOCKS.

Harcourt's Patent.

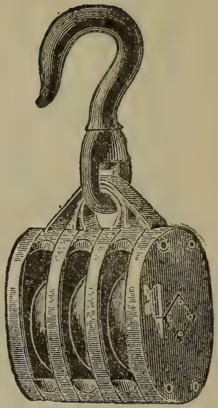
WITH LOOSE SWIVEL HOOKS.



SINGLE.
Fig. 490.

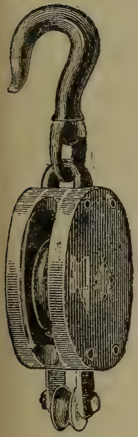


DOUBLE.
Fig. 491.

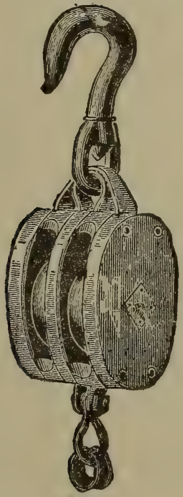


TRIPLE.
Fig. 492.

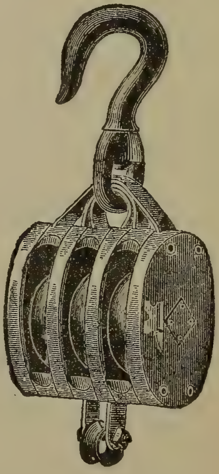
WITH LOOSE SWIVEL HOOKS AND BECKETS.



SINGLE.
Fig. 493.



DOUBLE.
Fig. 494.



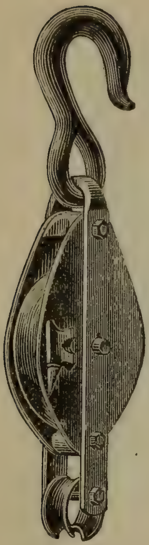
TRIPLE.
Fig. 495.

For Blocks with Loose Swivel Hooks, add to lists on pages 133 and 134 as follows:

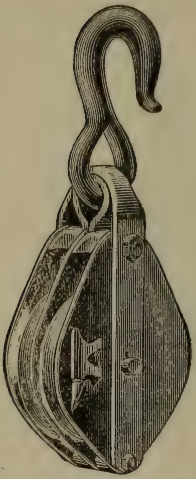
Size Hook . . .	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	2	Inch.
For Block, Single	5	6	7	8	9	10	12	13	14	15	16	"
For Block, Double		5	6	7	8	9	10	12	13	14	15	"
For Block, Triple			5	6	7	8	9	10	12	13	14	"
Add to list . .	$0.50	0.50	0.50	0.60	0.75	0.90	1.20	1 75	2.50	3.00	3.50	Each.

STEEL TACKLE BLOCKS.

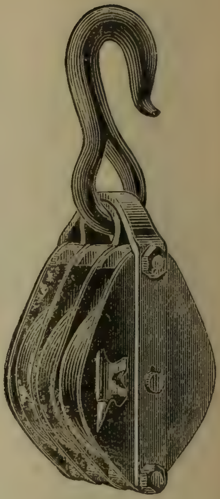
WITH LOOSE HOOKS.



SINGLE.
Fig. 496.



DOUBLE.
Fig. 497.



TRIPLE.
Fig. 498.

DIMENSIONS.			IRON BUSHED.			IMPROVED ROLLER BUSHED.			PHOSPHOR BRONZE OR METALINE BUSHED. SELF-LUBRICATING.		
Dia. of Sheaves	For Dia. Rope.	Size Shell.	Single.	Double	Triple.	Single.	Double.	Triple.	Single.	Double.	Triple.
2¼ in.	½ in.	4 in.	$ 90	$1.75	$2.50	$1.40	$2.60	$3.75	$1.65	$3.25	$4.75
3 in.	⅝ in.	5 in.	1.00	1.90	2.75	1.50	2.90	4.25	1.80	3.50	5.15
3½ in.	¾ in.	6 in.	1.25	2.25	3.25	1.75	3.25	4.75	2.10	4.00	5.80
4¼ in.	⅞ in.	7 in.	1.50	2.70	4.00	2.10	3.85	5.80	2.45	4.60	6.85
4¾ in.	1 in.	8 in.	1.85	3.20	4.75	2.55	4.60	6.85	2.90	5.30	7.90
5½ in.	1⅛ in.	9 in.	2.40	4.00	5.50	3.20	5.60	7.90	3.55	6.30	9.00
6¼ in.	1¼ in.	10 in.	3.10	5.10	7.00	4.05	7.00	9.85	4.40	7.70	11.00
8 in.	1½ in.	12 in.	5.00	8.25	11.75	6.00	10.35	14.90	6.45	11.15	16.00
9½ in.	1¾ in.	14 in.	7.50	11.75	16.50	8.75	14.25	20.25	9.10	15.00	21.30

Sizes 9 inch and larger take same size rope as Thick Mortise Wooden Blocks.

5 roll Roller Bushed Blocks quoted upon application. Use above Improved Roller Bushed lists.

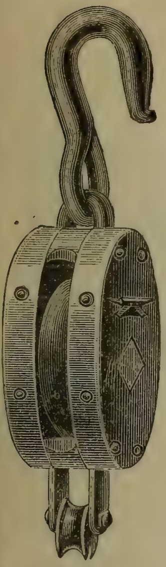
We furnish these blocks thoroughly galvanized, when so required, for use on Salt Water.

For Blocks with Loose Swivel Hooks, add extras as per page 135.

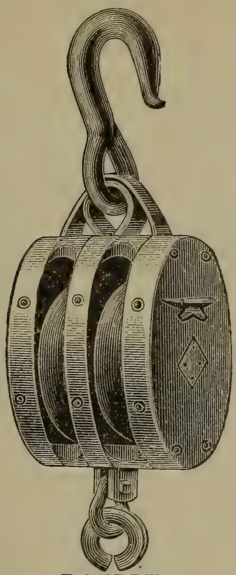
HEAVY TACKLE THICK MORTISE BLOCKS.

HARCOURT'S PATENT.

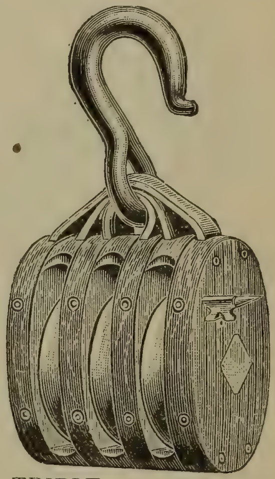
Double Cross Bolted (with extra heavy Hooks and Straps), Loose Hooks, Rings or Shackles.



SINGLE.
LOOSE HOOK AND BECKET.
Fig. 499.



DOUBLE.
LOOSE HOOK AND BECKET.
Fig. 500.



TRIPLE. LOOSE HOOK.
Fig. 501.

DIMENSIONS.			IRON BUSHED			IMPROVED ROLLER BUSHED.		
Size Sheave	For Dia. Rope.	Size Shell.	Single	Double	Triple	Single.	Double.	Triple.
4¼x1⅛x ½	1	7 inches.	$2.25	$4.00	$5.50	$3.00	$5.50	$7.75
4¾x1⅜x ⅝	1⅛	8 "	2.75	4.50	6.30	3.50	6.00	8.55
5½x1⅜x ⅝	1⅛	9 "	3.15	5.25	7.25	4.00	6.95	9 80
6¼x1½x ¾	1¼	10 "	4.00	6.50	8.50	5.25	9.00	12.25
7 x1½x ¾	1¼	11 "	5.25	8.50	12.50	6.50	11.00	16.25
8 x1⅝x ⅞	1½	12 "	5.25	8.50	12.50	6.50	11.00	16.25
9 x1¾x ⅞	1½	13 "	8.00	13.00	17.00	9.75	16.50	22.25
9½x1⅞x ⅞	1¾	14 "	8.00	13.00	17.00	9.75	16.50	22.25
10 x1⅞x1	1¾	15 "	9.00	15.00	20 00	11.00	19.00	26.00
11 x2¼x1	2	16 "	11.50	18.00	28.00	14.00	23.00	35.50

DIMENSIONS.			PHOSPHOR BRONZE OR METALINE BUSHED, SELF-LUBRICATING.		
Size Sheave.	For Dia. Rope.	Size Shell.	Single.	Double.	Triple.
4¾x1⅜x ⅝	1⅛	8 inches.	$5.00	$9.00	$13.00
5½x1⅜x ⅝	1⅛	9 "	5.75	10.50	15.00
6¼x1½x ¾	1¼	10 "	7.25	13.50	19.00
7 x1½x ¾	1¼	11 "	9.25	17.00	25.00
8 x1⅝x ⅞	1½	12 "	9.25	17.00	25.00
9 x1¾x ⅞	1½	13 "	13.00	23.50	33.00
9½x1⅞x ⅞	1¾	14 "	13.00	23.50	33.00
10 x1⅞x1	1¾	15 "	15.00	26.50	37.00
11 x2¼x1	2	16 "	18.00	32.00	48.00

For Blocks with mortise wider than above, add 10 per cent. to list for each extra ¼ inch or fraction thereof. For Blocks with Loose Swivel Hooks, add extras to list as per page 135.

5 roll Roller Bushed Blocks quoted upon application. Use above Improved Roller Bushed lists.

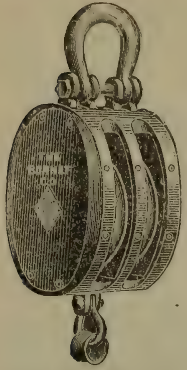
These Blocks are adapted for railroads, mining, bridge building and contractors' work.

These Blocks are intended for rapid and heavy work.

EXTRA HEAVY IRON STRAPPED BLOCKS.

Harcourt's Patent.

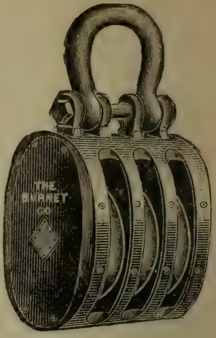
FOR RAILROAD WRECKING CARS AND STEAMBOAT USE--WITH RINGS OR SHACKLES.



LASHING SHACKLE AND BECKET.
Fig. 502.

These Extra Heavy Blocks are made throughout in the best possible manner. Every detail, from the selection of the materials to the workmanship and finish, has been given the most careful attention.

Larger sizes furnished to order.



LASHING SHACKLE.
Fig. 503.

DIMENSIONS.			IRON BUSHED.			IMPROVED ROLLER BUSHED.		
Size Sheave.	For Dia. Rope.	Size Shell.	Single.	Double.	Triple.	Single.	Double.	Triple.
$12 \times 2\frac{3}{8} \times 1$	$2\frac{1}{4}$ inches.	18 inches.	$15.00	$29.00	$42.00	$18.00	$35.00	$52.00
$14 \times 2\frac{7}{8} \times 1\frac{1}{4}$	$2\frac{1}{2}$ "	20 "	21.00	37.00	54.00	25.00	45.00	65.00
$15 \times 3\frac{3}{8} \times 1\frac{1}{4}$	3 "	22 "	26.00	48.00	70.00			
$16 \times 3\frac{7}{8} \times 1\frac{1}{2}$	$3\frac{1}{2}$ "	24 "	32.00	56.00	84.00			

PHOSPHOR BRONZE OR METALINE SELF-LUBRICATING BUSHED.

Size Shell. Inches.	Single.	Double.	Triple.	Size Shell.	Single.	Double.	Triple.
18	$23.00	$44.00	$63.00	22	$38.00	$70.00	$100.00
20	32.00	54.00	77.00	24	46.00	85.00	125.00

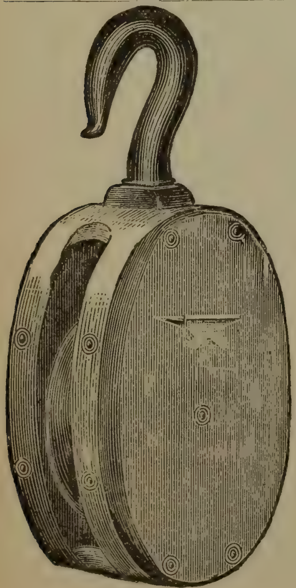


Fig. 504.

CARGO HOISTING BLOCKS.

SWIVEL HOOKS AND CROSS BOLTED.

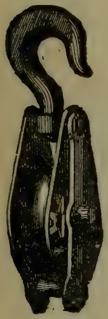
PHOSPHOR BRONZE OR METALINE BUSHED.
SELF LUBRICATING

Length of Shell.	Size of Sheave	For Rope.	Price
10	$6 \times 1\frac{3}{8} \times \frac{3}{4}$	$1\frac{1}{8}$	$6.00
12	$8 \times 1\frac{5}{8} \times \frac{7}{8}$	$1\frac{1}{4}$	8.50
14	$9\frac{1}{2} \times 1\frac{3}{4} \times \frac{7}{8}$	$1\frac{3}{8}$	11.00
15	$10 \times 1\frac{7}{8} \times \frac{7}{8}$	$1\frac{1}{2}$	13.00
16	$11 \times 1\frac{7}{8} \times \frac{7}{8}$	$1\frac{1}{2}$	15.00
18	$12 \times 2 \times 1$	$1\frac{3}{4}$	20.00
20	$14 \times 2\frac{7}{8} \times 1$	2	25.00

WROUGHT IRON BLOCKS.

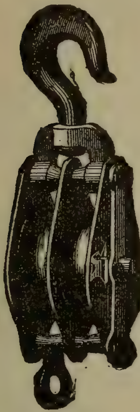
ENGLISH PATTERN.

IRON SHEAVES WITH POLISHED GROOVES.



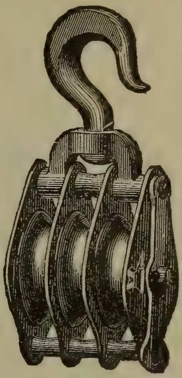
SINGLE.

Fig. 505.



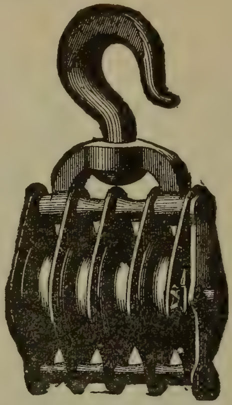
DOUBLE.

Fig. 506.



TRIPLE.

Fig. 507.



QUADRUPLE.

Fig. 508.

DIMENSIONS.				IRON BUSHED.			PHOSPHOR BRONZE OR METALINE BUSHED, SELF-LUBRICATING.		
Size Sheave.	For Dia. Rope.	For Chain.	Size Shell.	Single.	Double.	Triple.	Single.	Double.	Triple.
Inches.	Inches.	Inches.	Inches.	Each.	Each.	Each.	Each.	Each.	Each.
$3\frac{1}{2}$ x 1	$\frac{3}{4}$	. .	6	$2 35	$3.75	$4.60	$3.35	$5.75	$7.60
$4\frac{1}{4}$ x 1	$\frac{7}{8}$	. .	7	3 10	4.60	5.85	4.35	7.10	9 60
$4\frac{3}{4}$ x $1\frac{1}{8}$	1	. .	8	4 00	5 85	7.50	5 25	8.35	11.25
5 x $1\frac{5}{16}$	$1\frac{1}{8}$	$\frac{1}{4}$	9	5.35	8 20	10.50	6.85	11.20	15.00
6 x $1\frac{1}{2}$	$1\frac{1}{4}$	$\frac{5}{16}$	10	6.20	10.50	13.50	7.85	13.80	18 50
7 x $1\frac{5}{8}$	$1\frac{1}{2}$	$\frac{3}{8}$	12	7.60	13.50	17.25	9.45	17.20	22 80
8 x $1\frac{7}{8}$	$1\frac{3}{4}$	$\frac{7}{16}$	14	10.50	20 00	27 00	12.60	24.20	33.30
9 x $2\frac{1}{4}$	2	$\frac{9}{16}$	16	16 70	27 50	38 50	19 20	32.50	46.00
10 x $2\frac{3}{8}$	$2\frac{1}{4}$	$\frac{9}{16}$	18	28.50	43 00	58 50	31.75	49.50	68.25
11 x $2\frac{5}{8}$	$2\frac{1}{2}$	$\frac{5}{8}$	20	38.60	58.50	86.00	42.00	65.30	96.20

Larger sizes furnished to order.

We use the above Iron Bushed lists for Roller Bushed Blocks, but discount them less for Roller Bushed than for Iron Bushed.

Eighteen Inch Blocks and larger fitted with shackles instead of hooks when so preferred.

For list on Quadruple Blocks add the lists for Single and Triple together.

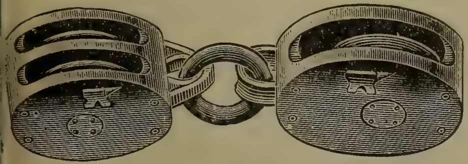


Fig. 509.

BACK GUY-BLOCKS,

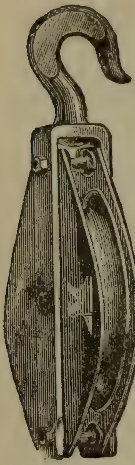
FOR DERRICKS.

Prices quoted upon application.

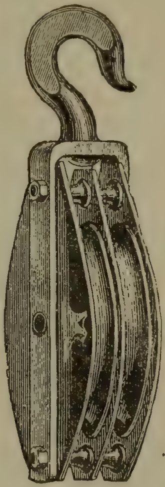
WROUGHT IRON BLOCKS FOR WIRE ROPE.

REGULAR PATTERN.

Stiff Swivel Hooks—Oval Shell.

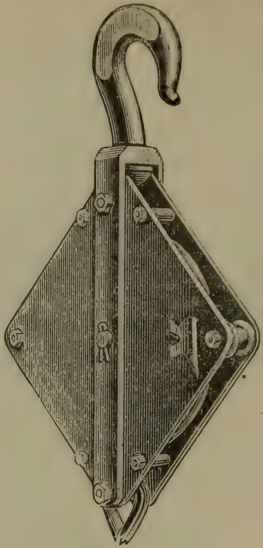


SINGLE.
Fig. 510.

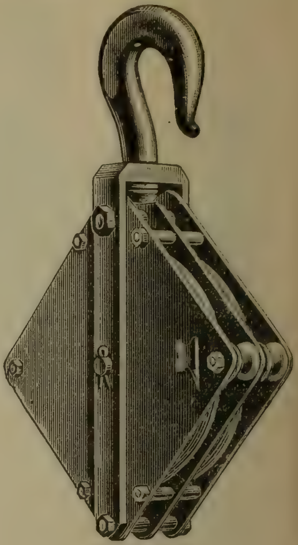


DOUBLE.
Fig. 511.

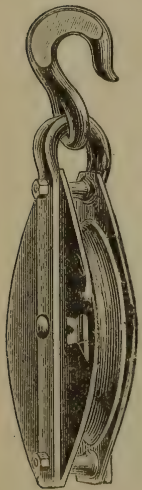
Stiff Swivel Hooks—Diamond Shell.



SINGLE.
Fig. 512.



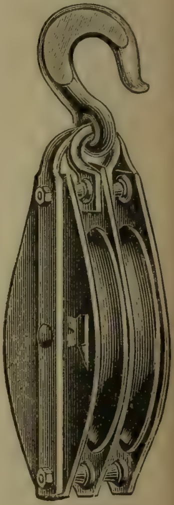
DOUBLE.
Fig. 513.



SINGLE.
Fig. 514.

LOOSE HOOKS—OVAL SHELL.

These Blocks made with Diamond Shell —see cuts Figs. 512 and 513—without extra charge.



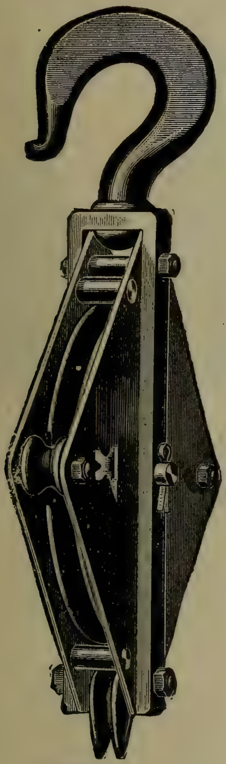
DOUBLE.
Fig. 515.

		IRON BUSHED.			Phosphor Bronze or Metaline Self-Lubricating Bushed.		
Dia. Sheave.	For Rope.	Single.	Double.	Triple.	Single.	Double.	Triple.
10 in diam.	¾ in. diam.	$10.00	$15.00	$20.00	$13.00	$21.00	$28.00
12 "	¾ "	12.00	17.00	23.00	15.00	23 00	31.00
14 "	¾ "	14 00	19.00	26.00	17.00	25.00	34.00
16 "	⅞ "	16.00	22.00	30.00	19.50	29.50	40.00
18 "	⅞ "	20.00	28.00	36.00	24.00	34.00	46.00

WROUGHT IRON BLOCKS FOR WIRE ROPE.

EXTRA HEAVY, WITH SWIVEL HOOKS OR SHACKLES.

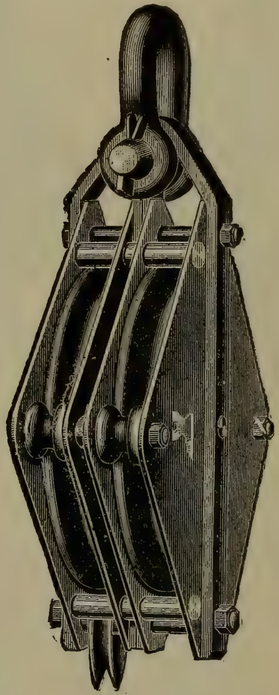
Stiff Swivel Hook.



SINGLE.

Fig. 516.

Shackle.



DOUBLE.

Fig. 517.

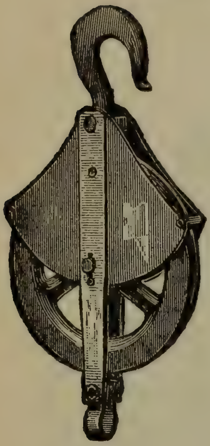
		Iron Bushed.			Phosphor Bronze or Metaline Self-Lubricating Bushed.		
Size Sheave.	For Rope.	Single.	Double.	Triple.	Single.	Double.	Triple.
10 in. diam.	5/8 in. diam.	$13.00	$19.00	$28.00	$17.00	$26.00	$37.00
12 "	3/4 "	15.00	22.00	31.00	19.00	29.00	41.00
14 "	3/4 "	17.00	25.00	36.00	21.00	32.00	45.00
16 "	7/8 "	30.00	39.00	46.00	36.00	50.00	62.00
18 "	1 "	34.00	44.00	53.00	40.00	56.00	68.00

All the strain is suspended on the wrought iron straps, which run entire length of the Shell, in Single, Double and Triple.

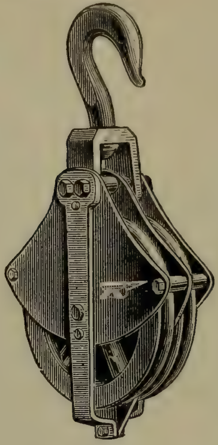
Shells, Sheaves and Pins Galvanized when so required.

WROUGHT IRON BLOCKS FOR WIRE ROPE.

HEAVY PATTERNS.

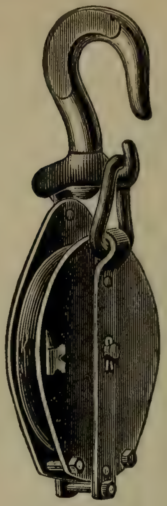


SINGLE.
Fig. 518.

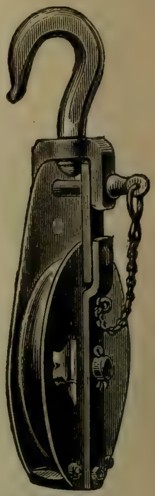


DOUBLE.
Fig. 519.

WROUGHT IRON SNATCH BLOCKS FOR WIRE ROPE.



DROP LINK.
Fig. 520.



SHACKLE PIN.
Fig. 521.

WROUGHT IRON BLOCKS FOR WIRE ROPE.

		IRON BUSHED.			PHOSPHOR BRONZE OR METALINE SELF-LUBRICATING BUSHED.		
Diam. of Sheave at bot. of Gr've.	For Rope.	Single.	Double.	Triple.	Single.	Double.	Triple.
10 in. diam.	$\frac{5}{8}$ in. diam.	$14.00	$20.00	$28.00	$17.00	$26.00	$37.00
12 ‘‘	$\frac{5}{8}$ ‘‘	16.00	23.00	31.00	19.00	29.00	41.00
14 ‘‘	$\frac{3}{4}$ ‘‘	18.00	25.00	36.00	21.00	31.00	45.00
16 ‘‘	$\frac{7}{8}$ ‘‘	31.00	40.00	46.00	36.00	50.00	62.00
18 ‘‘	1 ‘‘	34.50	45.00	53.00	40.00	56.00	68.00

WROUGHT IRON SNATCH BLOCKS FOR WIRE ROPE.

Diameter of Sheave, inches	10	12	14	16	18
For Rope, diameter, inches	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Iron Bushed, each	$16.00	$18.00	$20.00	$28.00	$38.00
Self-Lubricating Bushed, each . . .	18.00	21.00	24.00	33.00	44.00

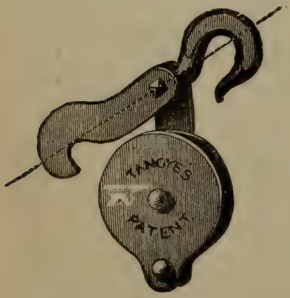


Fig. 522.

WROUGHT IRON SNATCH BLOCKS.

ENGLISH PATTERN.

Rope diameter, and Price each.

$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$	$2\frac{1}{2}$
$3.15	3.65	5.25	6.30	7.70	9.80	15.00	29.40	35.00

Larger sizes furnished to order.

WOOD SHELL SNATCH BLOCKS.

DROP LINK.

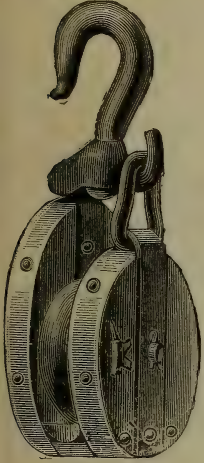


Fig. 523.

BAIL.

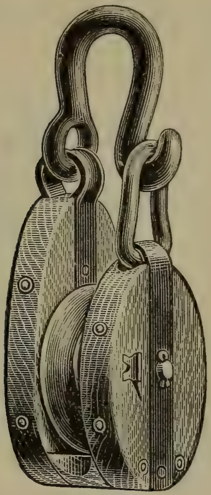


Fig. 524.

BURR.

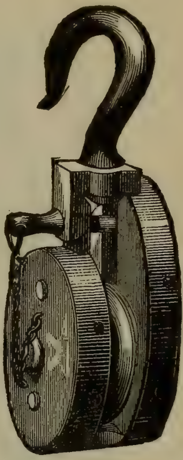


Fig. 525.

SIZE SHEAVE.	For Dia. Rope.	Size Shell.	Iron Bushed.	Improved Roller Bushed.	Phosphor Bronze or Metaline Bushed.	Net Extra for Galvanized Straps.
3 x 1⅛ x ½	⅞	6 inches	$ 4.00	$ 4.65	$ 5.25	$ 0.20
3½ x 1¼ x ½	⅞	7 "	4.75	5.50	6.00	25
4½ x 1⅜ x ⅝	1	8 "	5.75	6.60	7.25	35
5 x 1⅜ x ⅝	1⅛	9 "	6.75	7.75	8.50	40
5¾ x 1⅞ x ¾	1¼	10 "	8.50	10.00	11.00	65
6¾ x 2⅛ x ¾	1½	12 "	10 00	11.50	13.00	90
8 x 2¼ x ⅞	1¾	14 "	13.00	15.00	16.50	1.20
9 x 2⅝ x 1	2	16 "	17.00	20.00	22.00	. . .
10 x 3 x 1	2¼	18 "	25.00	28.50	31.00	. . .
11 x 3½ x 1¼	2½	20 "	38.00	43.00	46.00	. . .
11¾ x 4¼ x 1½	3	22 "	55.00	63.00	68.00	. . .
12½ x 4½ x 1½	3½	24 "	70.00	78.00	86.00	. . .

STEEL SHELL SNATCH BLOCKS.

DROP LINK.

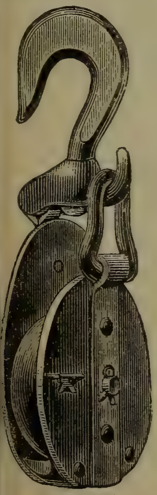


Fig. 526.

SIZE SHEAVE.	For Dia. Rope.	Size Shell.	Iron Bushed.	Phosphor Bronze or Metaline Bushed.
3 x 1⅛ x ½	⅞	6 inches	$ 4.75	$ 5.50
3½ x 1¼ x ½	⅞	7 "	5.25	6 50
4½ x 1⅜ x ⅝	1	8 "	6.35	7.65
5 x 1⅜ x ⅝	1⅛	9 "	7.50	9.00
5¾ x 1⅞ x ¾	1¼	10 "	9.00	10.50
6¾ x 2⅛ x ¾	1½	12 "	11.00	13 00
8 x 2¼ x ⅞	1¾	14 "	14.00	16.25
9 x 2⅝ x 1	2	16 "	19.00	21.75
10 x 3 x 1	2¼	18 "	25.00	28.00
11 x 3½ x 1¼	2½	20 "	36.00	39.50
11¾ x 4¼ x 1½	3	22 "	52.00	60.50
12½ x 4½ x 1½	3½	24 "	72.00	85.00

BURR.

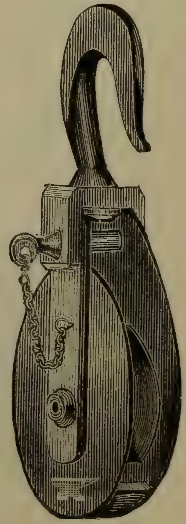
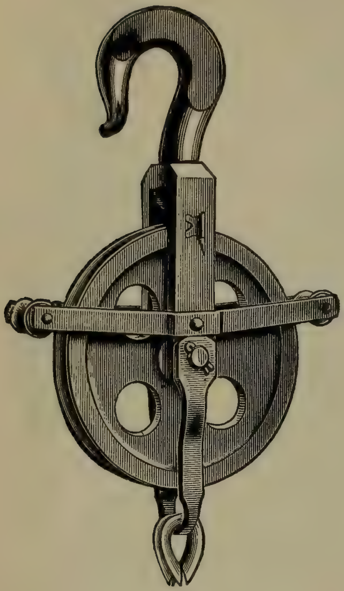


Fig. 527.

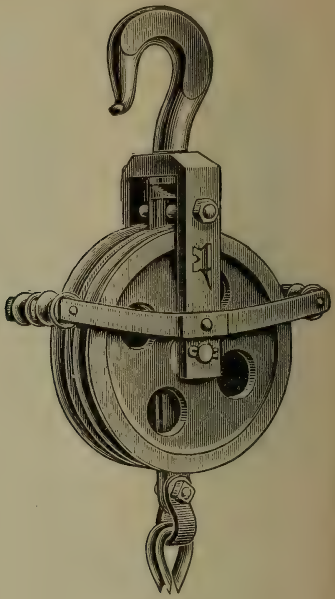
WROUGHT IRON GIN BLOCKS FOR WIRE ROPE.

PHOSPHOR BRONZE, SELF-LUBRICATING BUSHED.

STIFF SWIVEL HOOKS.



SINGLE.
Fig. 528.



DOUBLE.
Fig. 529.

Size Sheave.	For Rope.	Description.	Price, Each.
10 in. diameter	⅝ in. diameter.	Single	$11.00
		Double	18.00
12 “ “	⅝ “ “	Single	12.50
		Double	20.00
14 “ “	¾ “ “	Single	15.00
		Double	23.00
16 “ “	⅞ “ “	Single	18.00
		Double	27.00
18 “ “	1 “ “	Single	23.00
		Double	32.00
20 “ “	1⅛ “ “	Single	28.00
		Double	38.00

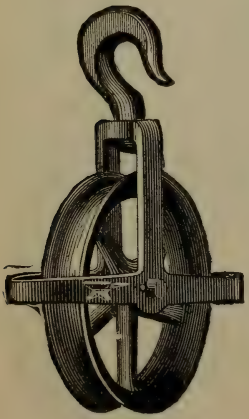
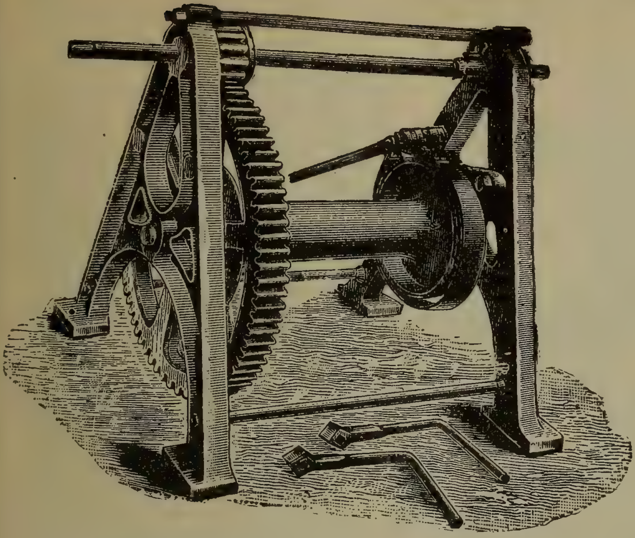


Fig. 530.

WROUGHT IRON GIN BLOCKS FOR MANILA ROPE.

Diameter of Sheave .	6	7	8	9	10	11
For Rope, Diameter .	1	1	1	1	1	1
Price, Iron Bush, each	$3.15	$3.50	$3.85	$4.20	$4.55	$5.25
“ Rol. Bush, each	4.00	4.40	4.70	5.40	5.75	6.55
“ Self-Lubricating,	4.75	5.15	5.50	6.20	6.55	7.35
Diameter of Sheave .	12	14	16	18	20	22
For Rope, Diameter .	1	1¼	1½	1½	1½	1½
Price, Iron Bush, each	$5.80	$6.30	$8.40	$9.80	$11.90	$13.30
“ Rol. Bush, each	7.10	7.60	9.70	11.10	13.00	14.40
“ Self-Lubricating	7.90	8.50	10.70	12.10	14.00	15.50

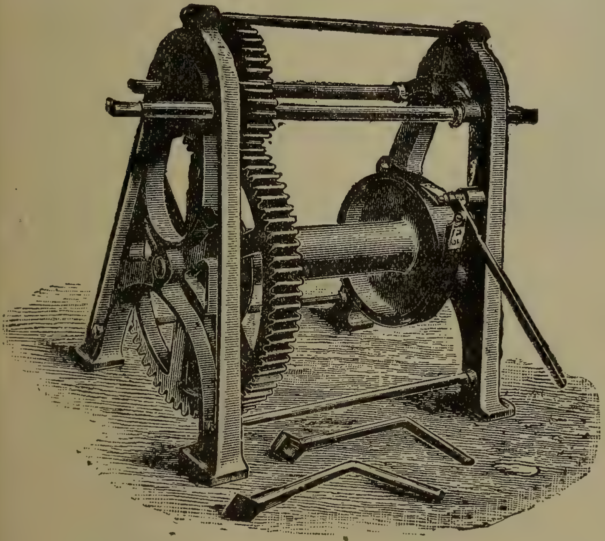
HOISTING CRABS OR WINCHES.



SINGLE PURCHASE.

Fig. 531.

No.	To lift with aid of 2 and 3 Sheave Blocks.	Lift Direct on Barrel.	Size of Barrel.	Approximate Weight.	Price with Lever Brake.	Price with Screw Brake.
1	2 tons.	8 cwt.	12x4½ in.	244 lbs.	$29.00	$32 50
2	3 “	12 “	14x4½ “	274 “	31.00	34.50
3	4 “	16 “	16x4½ “	342 “	36.00	39 50
4	5 “	20 “	18x4½ “	392 “	42.00	45 50



DOUBLE PURCHASE.

Fig. 532.

No.	To Lift with 2 and 3 Sheave Blocks.	Lift Direct on Barrel.	Size of Barrel.	Approximate Weight.	Price with Lever Brake.	Price with Screw Brake.
12	6 tons.	24 cwt.	19x5 in.	572 lbs.	$61.00	$66.00
13	10 “	40 “	21x6 “	760 “	77.00	87.00
15	15 “	60 “	26x7 “	1100 “	109.00	119.00
17	20 “	80 “	30x7 “	1600 “	189.00	199 00

SURE-GRIP STEEL TACKLE BLOCK.

WILL HOLD LOAD AT ANY POINT WITHOUT FASTENING THE ROPE.

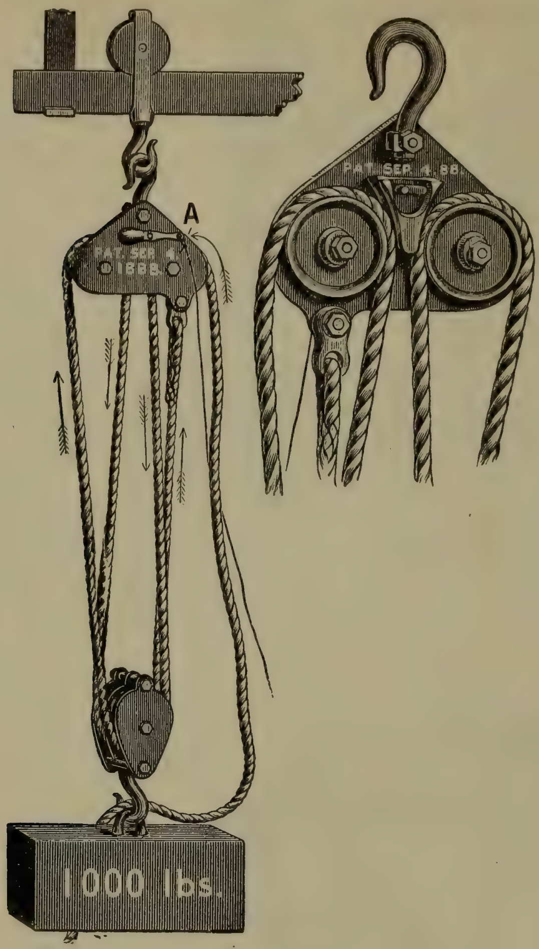

A
PAT. SEP. 4 1888.
PAT. SEP. 4 88
1000 lbs.

Fig. 533.

INSTRUCTIONS FOR REEVING.

Enter rope at A, pass wedge, and follow arrows as shown in cut. It will be noticed the two center ropes *coming in contact with wedge* always travel in same direction at same time. Take twist out of rope.

No. 3.	To be used with 3-8 inch rope.	One man can lift 300 lbs.	Capacity, 600 lbs.	$ 3.00
No. 4.	To be used with 1-2 inch rope.	One man can lift 350 lbs.	Capacity, 1000 lbs.	5.50
No. 5.	To be used with 5-8 inch rope.	One man can lift 400 lbs.	Capacity, 1800 lbs.	7.00
No. 6.	To be used with 3-4 inch rope.	One man can lift 450 lbs.	Capacity, 2500 lbs.	8.50
No. 4½.	To be used with 1-2 inch rope.	One man can lift 600 lbs.	Capacity, 3000 lbs.	10.00
No. 5½.	To be used with 5-8 inch rope.	One man can lift 700 lbs.	Capacity, 3500 lbs.	12.00
No. 6½.	To be used with 3-4 inch rope.	One man can lift 850 lbs.	Capacity, 5000 lbs.	14.00

Can supply Overhead Track; also Trolleys and Hangers for same.

Prices Above Include Lower Block.

THE YALE-WESTON TRIPLEX BLOCKS.

SPUR GEARED.

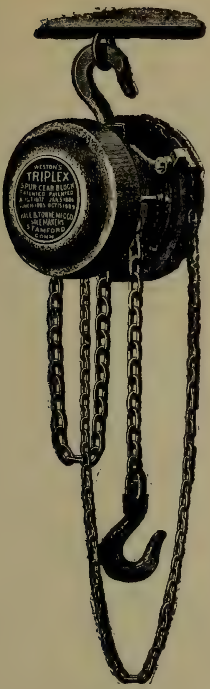


Fig. 534.

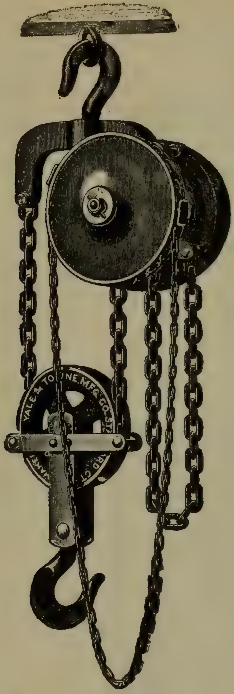

YALE & TOWNE MFG. CO.

Fig. 535.

These have an actual efficiency of 80 per cent., far exceeding that of any other block on the market. This means that only 20 per cent. of the operator's labor is wasted in overcoming friction, showing that this type of block has *twice* the efficiency of blocks of the Screw-Gear type and *triple* the efficiency of those of the Differential type. This can be seen by comparing the chain pulls as given in the tables herewith.

Capacity in Tons.	Price Complete.	*Hoist in Feet.	Extra Hoist Price per Foot.	Minimum Distance between Hooks.	Net Weight. in Lbs.	‡Chain Pull.	
						Lbs.	Feet.
TRIPLEX—FIG. 534.							
½	$35.00	8	$0.90	15 in.	51	62	21
1	45.00	8	.95	17 “	89	82	31
1½	60.00	8	1.00	19½ “	133	110	35
2	70.00	9	1.05	24 “	203	120	42
TRIPLEX—FIG. 535.							
3	90.00	10	1.50	32 in.	206	114	69
4	110.00	10	1.60	37 “	307	124	84
5	140.00	12	2.15	45 “	397	110	126
6	165.00	12	2.15	46 “	417	130	126
8	200.00	12	2.70	51 “	505	135	168
10	240.00	12	3.25	57 “	622	140	210
12	300.00	12	4.30	57 “	800	260	126
16	360 00	12	5.40	61 “	1,000	270	168
20	425.00	12	6.50	77 “	1,150	280	210

* ‡ See Page 143.

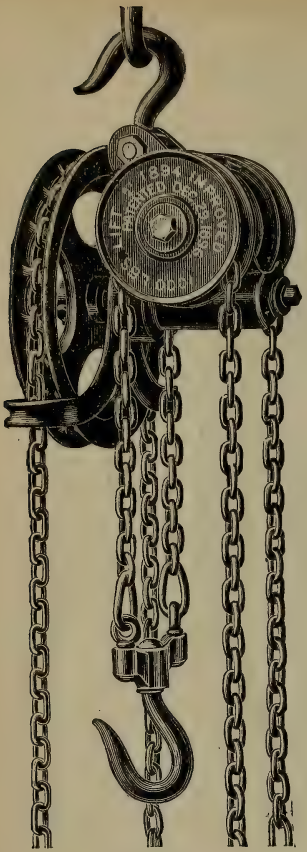


Fig. 536.

THE IMPROVED HARRINGTON HOIST.

Weight of Machine	Lift	To Raise	Price	Extra Lift per ft.
35 lbs.	8 ft.	500 lbs.	$22.50	$1.00
52 "	8 "	1,000 "	25.00	1.20
65 "	8 "	2,000 "	30.00	1.50
76 "	8 "	3,000 "	40.00	1.75
140 "	9 "	4,000 "	50.00	2.00
226 "	10 "	6,000 "	75.00	2.20
258 "	10 "	8,000 "	95.00	2.40
625 "	12 "	10,000 "	140.00	3.00
750 "	12 "	12,000 "	180.00	3.75
875 "	12 "	16,000 "	210.00	4.00
925 "	12 "	20,000 "	275.00	4.25

SHORTEST DISTANCE BETWEEN HOOKS OF

500-lbs. Hoist is	14½ inches	6,000-lb. Hoist is	28 inches.
1,000 " "	16 "	8,000 " "	31 "
2,000 " "	17 "	10,000 " "	39 "
3,000 " "	20 "	12,000 " "	39 "
4,000 " "	22 "	16,000 " "	40 "
		20,000 " "	61 "

THE YALE DUPLEX BLOCKS

SCREW GEARED. PATENTED.

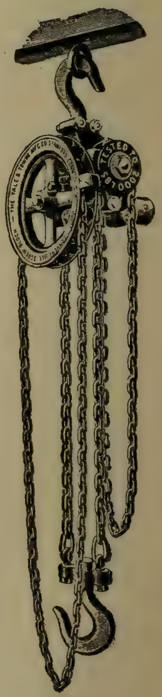


Fig. 537.

Capacity in Tons.	Price Complete.	*Hoist in Feet.	Extra Hoist Price per Foot.	Minimum Distance between Hooks	Net Weight in lbs.	‡ Chain Pull.	
						Lbs.	Feet.
½	$25.00	8	$1.25	13 in.	43	68	40
1	30.00	8	1.30	16 "	57	87	59
1½	40.00	8	1.35	19 "	76	94	80
2	50.00	9	1.40	21 "	104	115	93
3	70.00	10	1.50	25 "	200	132	126
3½	80.00	10	1.90	26 "	210	140	138
4	95.00	10	1.95	29 "	225	142	155
5	125.00	12	2.00	31 "	340	145	195
6	150.00	12	2.80	33 "	360	145	252
7	175.00	12	3.00	34 "	370	160	275
8	200.00	12	3.10	36 "	390	160	310
10	250.00	12	3.20	45 "	570	160	390

* Figures denote height in feet which blocks, with regular lengths of chain, will hoist from level on which operator stands.

‡ Figures denote the pull in pounds required to lift the full load, and the number of feet of hand chain which must be handled to lift the load one foot.

The improved chain guides permit the use of the block in a horizontal or inclined position. The gearing, composed of a worm-wheel and screw, is enclosed in an oil-tight housing, and the working parts are thus always immersed in oil, insuring smooth action and thorough lubrication.

SPEIDEL'S IMPROVED ECONOMIC SAFETY HOIST.

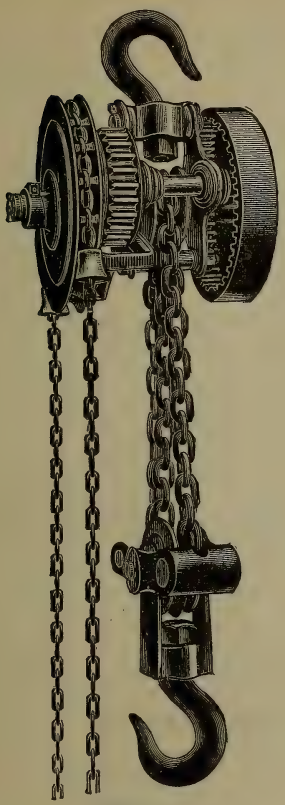


Fig. 538.
Hoist showing Lower Block in Position for Regular or Slow Speed.

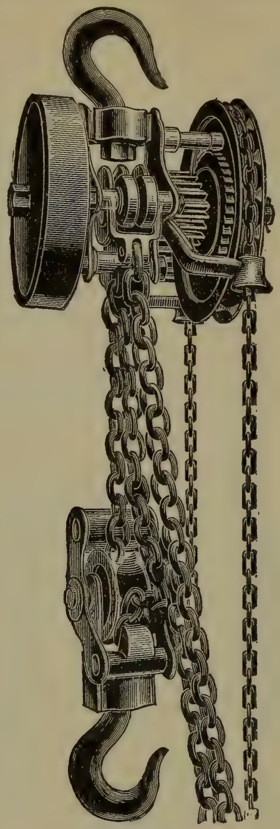


Fig. 539.
Hoist showing Lower Block in Position for the Fast Speed

PRICES, LIFTING CAPACITY, WEIGHT AND HEIGHT OF LIFT.

Safe Working Capacity in Lbs.	Price, Complete with Chain, for Regular Lift.	Regular Height of Lift.	Weight, Complete with Chain for Regular Lift.	Price for Each Ft of Extra Lift, including 4 Chains.	Shortest Distance between Inside of Hooks.
1,000	$25.00	8 ft.	47 lbs.	$0.90	16 in.
2,000	30.00	8 "	58 "	1.00	19 "
3,000	40.00	8 "	78 "	1.20	21½ "
4,000	55.00	9 "	110 "	1.30	24 "
6,000	75.00	10 "	160 "	1.50	2 ft. 4 "
8,000	95.00	10 "	210 "	1.65	2 " 8 "
10,000	120.00	12 "	285 "	1.90	3 " 0 "
12,000	140.00	12 "	300 "	2.20	3 " 0 "
16,000	175.00	12 "	400 "	2.50	3 " 5 "
20,000	225.00	12 "	600 "	2.60	4 " 1½ "
30,000	300.00	12 "	775 "	3.50	4 " 4 "

The novel feature of the lower block is the simple and ingenious method of securing two speeds, which is of great value where variable loads have to be lifted. Fig. 538 of above cuts shows the lower block in position for the regular or slow speed, while in Fig. 539 the pawl is locking the hoisting chain to the sheave, thus lifting the load only on one chain This device is self-disengaging when the load has been hoisted at the fast speed and is lowered below the point from which it has been raised.

WESTON'S DIFFERENTIAL PULLEY BLOCKS.

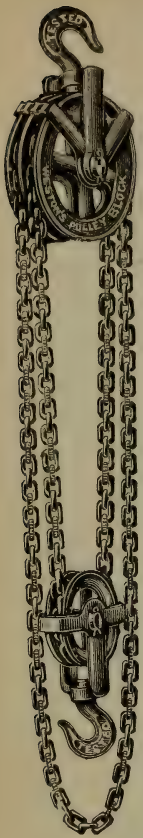


Fig. 540.

Capacity in Tons.	Price Complete.	*Hoist in Feet.	†Extra Hoist Price per Foot.	Min. Distance Between Hooks.	Net Weight in Lbs.	‡Chain Pull.	
						Pounds.	Feet.
⅛	$18.00	5	$2.80	16 in.	11	35	15
¼	18.00	6	2.80	17 "	22	72	18
½	21.00	7	2.80	21 "	30	122	24
1	28.00	8	3.00	26 "	51	216	30
1½	36.00	8½	3.20	32 "	81	246	36
2	45.00	9	3.40	39 "	122	308	42
3	60.00	9½	4.00	44 "	180	557	38

* Figures denote height in feet which blocks, with regular lengths of chain, will hoist above level on which operator stands.

† Each additional foot of hoist requires 4 feet of additional chain.

‡ Figures denote the pull in pounds required to lift the full load, and the number of feet of chain which must be handled to lift the load one foot.

PRICES OF PARTS.

Capacity in Tons.	Sheaves.		Yokes and Hooks.		Pins.		Regular Chains Complete. Each.
	Top.	Bottom.	Top.	Bottom.	Top.	Bottom.	
¼	$3.60	$0.90	$3.00	$2.25	$0.40	$0.30	$10.50
½	4.80	1.30	3.75	3.00	.50	.40	12.50
1	6.00	1.50	4.50	3.75	.50	.40	17.00
1½	8.40	1.90	5.50	4.50	.60	.50	21.50
2	12.00	2.25	7.50	5.50	.60	.50	27.00
3	15.60	3.75	11.00	8.00	.70	.60	36.00

HAND TRAVELING CRANE,

WITH SINGLE "I" BEAM.

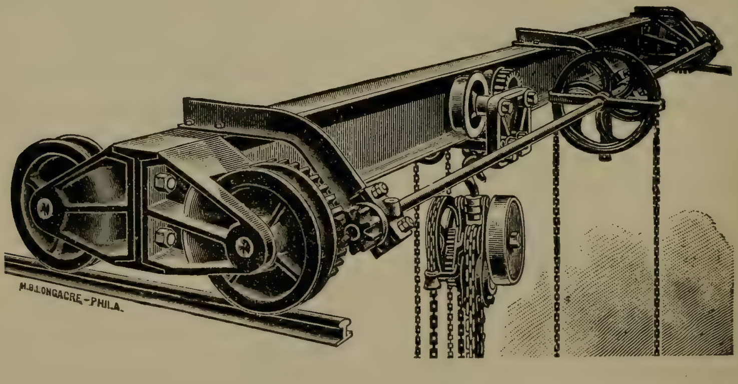

M.B.LONGACRE-PHILA.

Fig. 541.

Cut shows Crane with geared bridge and Trolley. The bridge is made of a single "I" beam with trolley running on its lower flange. All motions are effected by endless hand chains from the floor and are as follows:

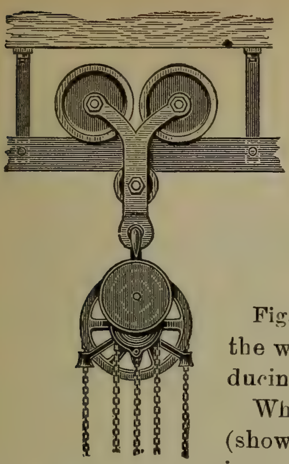
Hoisting and lowering, two speeds; bridge travel, one speed; trolley travel, one speed.

Bridge and trolley wheels are turned in the grooves, have anti-friction roller bearings, and work very freely without a jar. These cranes are built strong and durable and cause no vibration.

Light cranes of the single "I" beam style are made without gearing, the bridge and trolley being moved by pushing the load; this latter type is the kind of cranes used in ice factories.

For traveling cranes state maximum load, distance from floor to top of rails and from top of rail to ceiling or roof truss, also distance from centre to centre of rails and distance between walls or posts.

SPECIAL PRICES ACCORDING TO REQUIREMENTS.



SHORT HANGERS.

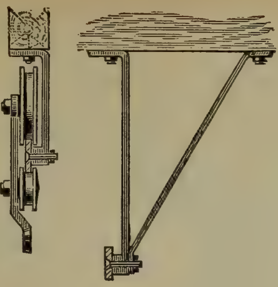


Fig. 542—BRACED HANGER.

OVERHEAD TROLLEYS

SINGLE TRACK, FLAT IRON RAIL,

Wrought Iron Hanger and Plain Trolley.

The rail and hangers are made of wrought iron, and are to be bolted directly to the ceiling or overhead timbers. Trolleys have large and well fitted steel pins, and the wheels are large and running on anti-friction rollers, reducing friction to a minimum.

Where obstructions are in the way, the braced hangers (shown to the right), can be made deep enough to clear shafting, pipes, belts, etc.

PRICE, CAPACITY AND LENGTHS BETWEEN HANGERS.

Capacity in Pounds.	Largest Distance C to C Hangers.	Price of Rail Per Ft	Price of Short Hanger, Each	Price of Trolley.	Price of Each Curve.	Price of Switch for Regular Lift of Hoist.
500	8 ft. 0 ins.	$0.30	$0.90	$ 9.75	$0.75	$27.75
1,000	6 " 0 "	.40	1.00	10.50	.85	28.50
1,500	6 " 0 "	.50	1.15	11.25	1.10	29.25
2,000	6 " 6 "	.65	1.40	12.00	1.50	30.00
3,000	5 " 0 "	.75	1.70	13.50	1.50	31.50
4,000	5 " 6 "	.90	2.00	15.00	1.85	33.75
5,000	5 " 0 "	1.00	2.20	16.50	2.00	34.25
6,000	5 " 0 "	1.10	2.40	18.00	2.25	35.00

IMPROVED OVERHEAD TRAMWAY SWITCH.

To be used in Connection with Either Style of Track.

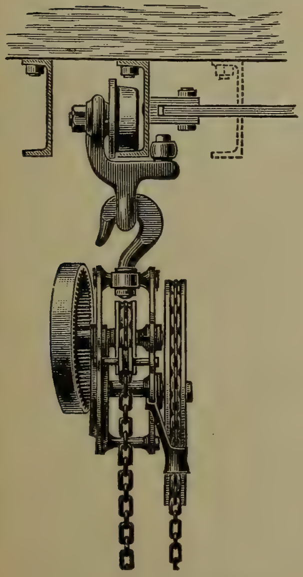


Fig. 543.—END VIEW.

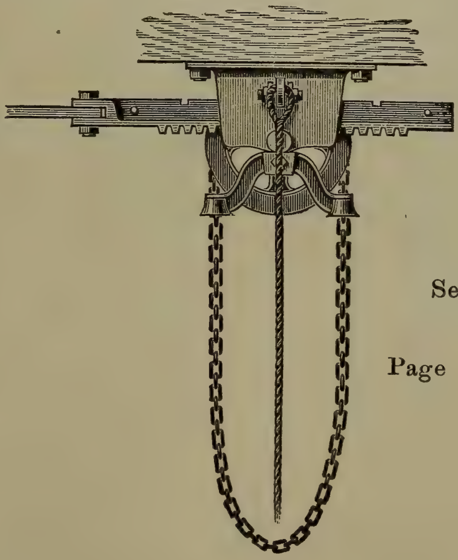


Fig. 543.—SIDE VIEW.

See

Page 152.

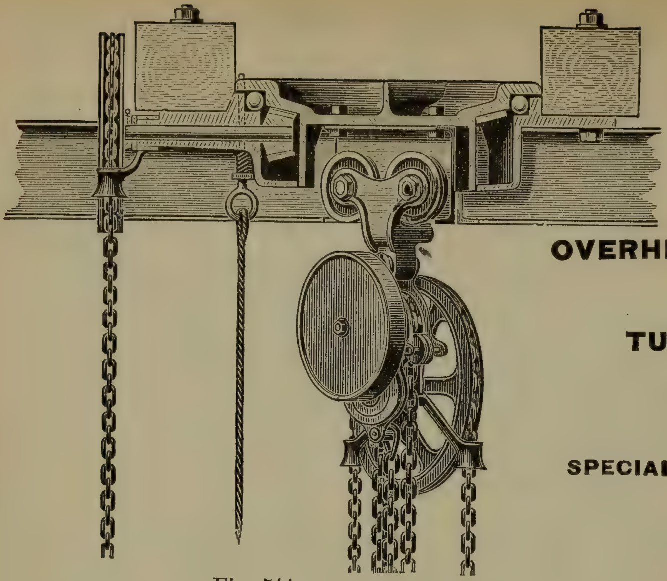


Fig. 544.

SPEIDEL'S IMPROVED OVERHEAD TRAMWAY TURN TABLE.

SPECIAL PRICES QUOTED.

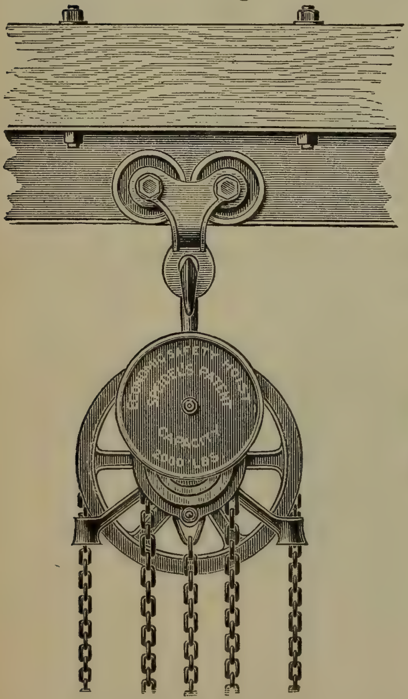


Fig. 545. Side View.

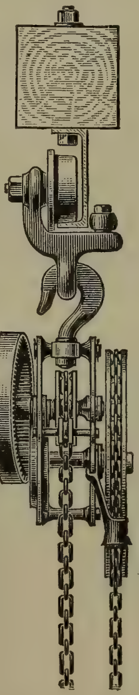


Fig. 545. End View.

OVERHEAD TRAMWAYS.

Single Track with Plain Traveler and Overhead Tramway with Channel Beam Rail.

This style of tramway can be bolted directly to the ceiling, and is a very convenient form for warehouses, mills, factories, etc.

The trolleys have large and well-fitted steel pins, and the wheels run on anti-friction rollers, reducing friction to a minimum.

Prices, Capacity and Lengths for Channel Beam Rails, as Given Below.

Capacity in Pounds.	Largest Distance between Hanger Bolts.	Price per Foot.	Price Trolley.	Price of Each Curve.	Price of Switch for Regular Lift of Hoist.
500	6 ft.	$0.30	$8.50	$2.50	$26.25
1,000	5 "	0.35	9.00	2.75	27.00
1 500	6 "	0.40	10,00	3.25	27.75
2,000	5 "	0.45	11.00	3.50	28.50
3,000	6 "	0.50	12.75	3.75	29.25
4,000	5 "	0.55	13.50	4.00	30.00
5,000	6 "	0.65	16.50	4.50	31.50
6,000	5 "	0.75	18.00	5.00	33.00

OVERHEAD TRAMWAYS.

SINGLE OVERHEAD TRACK TRAMWAY WITH GEARED TRAVELER AND "I" BEAM RAIL.

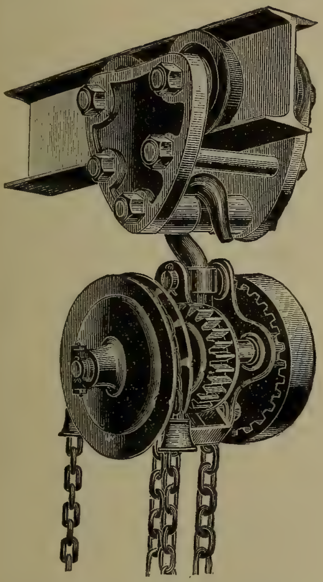


Fig. 546 — Plain Traveler.

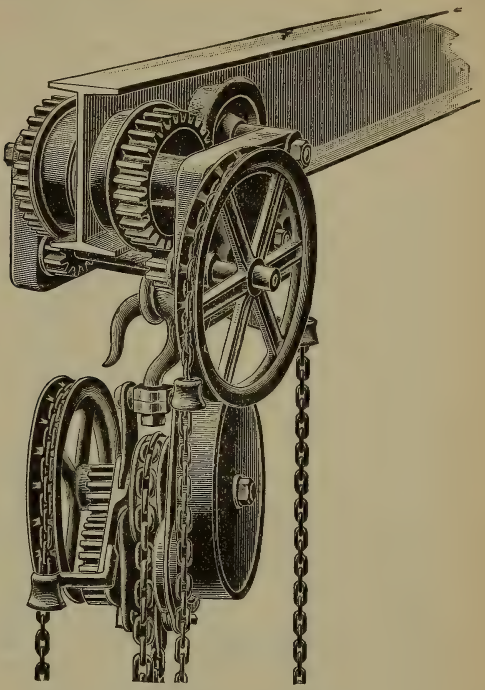


Fig. 547 — Geared Traveler.

The tramways can be bolted directly to the ceiling or supported on trussels, and are well adapted for foundries, machine shops, warehouses, stone yards, ship yards, etc.

These types are made with either plain or geared trolley; for loads upward of two or three tons it is best to use the geared trolleys, and where loads have to be moved carefully and without jerking, as in foundries in handling moulds, etc., the geared trolley is a necessity. The geared trolley is moved and operated by an endless hand chain from the floor.

In writing for prices, give maximum load to be carried and distance from centre to centre of supports, if such are given, and the distance from floor to ceiling or overhead timbers.

PRICES AND CAPACITIES.

Plain Traveler.		Geared Traveler.	
Capacity in Pounds.	Price of Traveler.	Capacity in Pounds.	Price of Traveler.
500	$12.75	3,000	$ 57.50
1,000	13.50	4,000	60.00
1,500	14.25	5,000	62.50
2,000	16.00	6,000	67.50
3,000	18.00	8,000	75.00
4,000	20.25	10,000	87.00
5 000	24.00	12,000	93.75
6,000	33.75	16,000	112.50
8,000	36.00	20,000	120.00
10,000	37.50		

Prices for switches same as for Channel and "I" Beam rails.

Prices of geared travelers apply to length of chain suitable for hoists with regular height of lift. For extra height add 40c. for each foot of additional lift.

When ordering or writing for prices of overhead tramways, please state which style of track is desired and give maximum load to be handled; where long hangers are required give the distance between overhead timbers and trolley wheels, clearing all obstructions; state length of track required, whether straight or curved, in the latter case showing on a plain sketch location of the curves, etc.

"GUM-OLEO."

(TRADE MARK.)

A Wire Rope Lubricant and Preservative.

FOR ELEVATOR USE.

Is a Neutral Product. It Prevents and Destroys Rust. Keeps the Ropes Always Pliable. Prevents Strand Friction. Reduces Drum and Sheave Friction. Prolongs the Life of Rope. Odorless.

DIRECTIONS FOR USING "GUM-OLEO."

1. Apply with a Brush.
2. Do not use in excess and let a reasonable time elapse between applications.
3. In a short time the rope will be filled internally and coated externally, thereby preventing strand and drum friction.
4. After the rope is coated, keep the coating fresh by an occasional application.
5. KEEP YOUR DRUMS CLEAN! If the coating adheres to the drum, it indicates an excessive use of the material.

Sold in One Gallon Cans only, ... Per Gallon, $2.00

BURNET IMPROVED CABLE COATING.

For the protection and preservation of Wire Ropes and Cables under any condition of use or idleness on

Traction Roads, Tramways, Power Transmission, Mine Haulage and Hoists, Standing Rigging, Etc.

Burnet Cable Coating if properly applied will render perfect service at a merely nominal expense.

1. It is a neutral product, free of grit or extraneous matter of any kind.
2. It is uniform in quality and consistency, and requires no manipulation or addition of other oils.
3. It prevents rust and destroys and eliminates rust already formed.
4. It fills the rope internally, and coats it completely externally, preventing strand friction and decreasing drum and sheave friction.
5. Its use prolongs the life of the rope.

DIRECTIONS FOR USING ON WIRE CABLE.

1. Feed in a small stream about the size of a broom straw on the outgoing cable, using any simple device as a spreader to make it cover evenly, and to prevent over feeding. Continue this operation for one or two turns at a time.
2. On a vertical rope apply with a brush, or waste.
3. Used in this way the cable fills slowly but surely, and will present a smooth surface.
4. After outside coat is formed, use only sufficient quantity to keep it smooth and moist; special care must be taken not to use it in excess.
5. When the cable is wet do not apply the coating.
6. Drums and Sheaves must be kept perfectly clean at all times.
7. Any signs of "Gumming, Fluffing or Peeling off" of coating, indicates one or more of the following conditions:

FIRST.—That too much material is being used. SECOND.—That the cable was wet when applied. THIRD.—That the Sheaves are not clean.

Sold in Barrel Lots only, ... Per Gallon, $0.30

APPROXIMATE WEIGHT, STRENGTH AND LENGTH OF ROPE

Size in Circumference.	Size in Diameter.	Weight of 1000 feet.	Weight per fathom.	Strength of Manila Rope, lbs. Sisal Rope about 25 per cent less	Number of feet in one pound.		Tarred Hemp Rope, Weight of 1000 feet.	Weight per fathom.
					Feet	inches		
3/8	1/8	30	....	300	75	....	....	....
1/2	3/16	35	....	540	60	....	....	....
3/4	1/4	45	....	780	40	....	54	....
1	5/16	55	....	1000	30	....	69	....
1 1/8	3/8	65	....	1280	23	....	73	....
1 1/4	7/16	75	....	1560	16	8	86	....
1 1/2	1/2	85	1/2	2250	12	9	98	5/8
1 3/4	9/16	110	3/5	3060	9	8	135	3/5
2	5/8	140	4/5	4000	7	6	162	1
2 1/4	3/4	170	1	5000	6		214	1 1/4
2 1/2	13/16	200	1 1/5	6250	5		263	1 3/10
2 3/4	7/8	240	1 2/5	7500	4	3	290	1 3/4
3	1	275	1 3/5	9000	3	8	347	2
3 1/4	1 1/16	325	2	10500	3	2	400	2 1/2
3 1/2	1 1/8	360	2 1/5	12250	2	10	455	2 3/4
3 3/4	1 3/16	410	2 1/2	14000	2	5	526	3
4	1 1/4	460	3	16000	2	3	620	3 1/4
4 1/4	1 3/8	510	3 1/2	18000	2		719	3 3/4
4 1/2	1 7/16	585	3 3/4	20250	1	8	781	4 1/4
4 3/4	1 1/2	640	4 1/5	22500	1	7	870	5
5	1 5/8	720	4 1/2	25000	1	5	932	5 1/2
5 1/2	1 3/4	835	5 3/4	30250	1	3	1190	6 1/2
6	1 7/8	1050	6 3/4	36000		11 1/2	1400	8
6 1/4	2	1150	7 3/8	39000		10 2/3	1525	8 1/2
6 1/2	2 1/8	1250	8	42250		9 3/4	1688	9
7	2 1/4	1425	9 1/4	49000		8 1/2	1906	10
7 1/2	2 3/8	1700	10 1/2	56250		7 1/2	2188	12 1/2
8	2 9/16	2000	12 1/4	64000		5 1/2	2562	14
8 1/2	2 3/4	2300	13 4/5	72250		5	2875	16
9	2 7/8	2650	16	81000		4 1/2	3312	20
9 1/2	3	3000	17 2/5	90250		4	3625	22
10	3 3/16	3400	20	100000		3 1/2	4187	24
11	3 1/2	4000	24 1/2	118000		2 9/10	5094	28
12	3 3/4	4700	28 1/2	135000		2 1/2	5938	35
13	4 1/4	5650	34	156000		2 1/8	7060	41
14	4 7/8	6500	39 1/4	211000		1 4/5	8190	48
15	5 1/2	7500	45 1/4	230000		1 6/10	9438	56

Weights of Rope are liable to vary, either way.
The Working Strain is about one-third of the Breaking Strain.
Basis is price for 7/16 inch diameter (1¼ inch circumference) and upwards.

THE FOLLOWING ARE EXTRA ABOVE BASIS.

12 Thread or 3/8 inch diameter	1/2 cent. per pound.
6 and 9 thread, 1/4 and 5/16 inch diameter	1 " " "
6 Thread or 3/16 inch diameter	1 1/2 " " "
6 " " 1/8 " "	2 " " "
Bolt rope (Manila)	1 1/2 " " "

TRANSMISSION ROPE.

Standard sizes	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2

HOISTING ROPE.

Standard sizes	1	1 1/8	1 1/4	1 3/8	1 1/2	1 5/8	1 3/4

Transmission and Hoisting Rope is made from the best selected Cebu Manila Hemp, especially prepared for the transmission of Power and Hoisting purposes, the former, for transmission of Power, to run at high speed, the latter, for hoisting purposes of every description, coal falls, derrick and quarry rope, pile driving, etc.

PRICES ON APPLICATION.

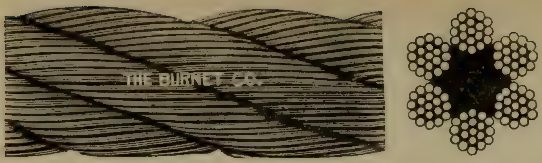


Fig. 548.

STANDARD HOISTING ROPE.

Composed of 6 Strands and a Hemp Centre.
Nineteen Wires to the Strand.

SWEDISH IRON.

Trade Number	Price in cts. per foot.	Diameter in inches.	Ap. circumference in inches.	Weight per foot in lbs.	Ap. breaking strain in tons of 2,000 lbs.	Allowable work strain in tons of 2,000 lbs.	Min. size of drum or sheave in ft.
. .	170	2¾	8⅝	11.95	114	22.8	16
. .	140	2½	7⅞	9.85	95	18.9	15
1	117	2¼	7⅛	8.00	78	15.60	13
2	92	2	6¼	6.30	62	12.40	12
3	80	1¾	5½	4.85	48	9.60	10
4	63	1⅝	5	4.15	42	8.40	8½
5	57	1½	4¾	3.55	36	7.20	7½
5½	48	1⅜	4¼	3.00	31	6.20	7
6	40	1¼	4	2.45	25	5.00	6½
7	33	1⅛	3½	2.00	21	4.20	6
8	26	1	3	1.58	17	3.40	5¼
9	20	⅞	2¾	1.20	13	2.60	4½
10	16	¾	2¼	0.89	9.7	1.94	4
10¼	12	⅝	2	0.62	6.8	1.36	3½
10½	10	9/16	1¾	0.50	5.5	1.10	2¾
10¾	8	½	1½	0.39	4.4	0.88	2¼
10*a*	7½	7/16	1¼	0.30	3.4	0.68	2
10*b*	7	⅜	1⅛	0.22	2.5	0.50	1½
10*c*	6¾	5/16	1	0.15	1.7	0.34	1
10*d*	6½	¼	¾	0.10	1.2	0.24	¾

NOTE —Siemens-Martin Steel Rope, same price as Iron Rope.

CAST-STEEL.

Trade Number	Price in cts. per foot.	Diameter in inches.	Ap. circumference in inches.	Weight per foot in lbs.	Ap. breaking strain in tons of 2,000 lbs.	Allowable work strain in tons of 2,000 lbs.	Min. size of drum or sheave in ft.
. .	210	2¾	8⅝	11.95	228	45.6	10
. .	175	2½	7⅞	9.85	190	37.9	9½
1	142	2¼	7⅛	8.00	156	31.2	8½
2	111	2	6¼	6.30	124	24.8	8
3	93	1¾	5½	4.85	96	19.2	7¼
4	74	1⅝	5	4.15	84	16.8	6¼
5	66	1½	4¾	3.55	72	14.4	5¾
5½	56	1⅜	4¼	3.00	62	12.4	5½
6	46	1¼	4	2.45	50	10.0	5
7	38	1⅛	3½	2.00	42	8.40	4½
8	30	1	3	1.58	34	6.80	4
9	23	⅞	2¾	1.20	26	5.20	3½
10	18	¾	2¼	0.89	19.4	3.88	3
10¼	14	⅝	2	0.62	13.6	2.72	2¼
10½	12	9/16	1¾	0.50	11.0	2.20	1¾
10¾	11	½	1½	0.39	8.8	1.76	1½
10*a*	10	7/16	1¼	0.30	6.8	1.36	1¼
10*b*	9½	⅜	1⅛	0.22	5.0	1.00	1
10*c*	9¼	5/16	1	0.15	3.4	0.68	⅝
10*d*	9	¼	¾	0.10	2.4	0.48	½

NOTE.—When the Iron or Steel Rope named above is Galvanized or Tinned, add 10 per cent. to list price per foot. When made with *Wire Centre*, add 10 per cent. to list price per foot.

This rope is almost universally employed for hoisting purposes on account of its flexibility. It is made of six strands, each of which is formed by twisting nineteen wires together, and a hemp core or center. Sometimes the hemp center is replaced by a wire strand, which adds from seven to ten per cent. to the strength of the rope; but the wear on the center is as great as on the outside strands, and its use is not generally advised.

The Standard Hoisting Rope is very pliable, and will wind on moderate-sized drums and pass over reasonably small sheaves without injury. Where it is possible, drums and sheaves larger than those indicated in the lists should be adopted, particularly when high speeds are employed or when the working strain is greater than one-fifth of the breaking strain, because the bending of a rope around a sheave is more destructive the heavier the strain on the rope and the smaller the sheave.

In substituting steel for iron, it is well to use the same size of rope, thereby taking full advantage of the increased wearing capacity of steel over iron. The best steel is the only one to use, as inferior grades are not as serviceable as good iron, because the constant vibrations to which ropes are subjected cause the poor steel to become brittle and unsafe.

TRANSMISSION OR HAULAGE ROPE.

COARSE-LAID ROPE.

Composed of 6 Strands and a Hemp Center. 7 Wires to the Strand.

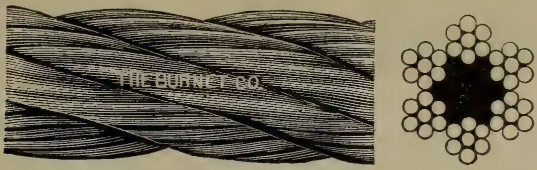


Fig. 549.

SWEDISH IRON.

Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
11	51	1½	4¾	3.55	34	6.80	13
12	43	1⅜	4¼	3.00	29	5.80	12
13	36	1¼	4	2.45	24	4.80	10¾
14	29	1⅛	3½	2.00	20	4.00	9½
15	23	1	3	1.58	16	3.20	8½
16	17½	⅞	2¾	1.20	12	2.40	7½
17	14	¾	2¼	0.89	9.3	1.86	6¾
18	12	¹¹⁄₁₆	2⅛	0.75	7.9	1.58	6
19	10	⅝	2	0.62	6.6	1.32	5¼
20	8	⁹⁄₁₆	1¾	0.50	5.3	1.06	4½
21	6½	½	1½	0.39	4.2	0.84	4
22	5½	⁷⁄₁₆	1¼	0.30	3.3	0.66	3¼
23	4½	⅜	1⅛	0.22	2.4	0.48	2¾
24	3¾	⁵⁄₁₆	1	0.15	1.7	0.34	2½
25	3¼	⁹⁄₃₂	⅞	0.125	1.4	0.28	2¼

NOTE.—Siemens-Mart'n Steel Rope, same price as Iron Rope.

CAST-STEEL.

Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
11	60	1½	4¾	3.55	68	13.6	8½
12	51	1⅜	4¼	3.00	58	11.6	8
13	43	1¼	4	2.45	48	9.60	7¼
14	36	1⅛	3½	2.00	40	8.00	6¼
15	28	1	3	1.58	32	6.40	5¾
16	22	⅞	2¾	1.20	24	4.80	5
17	16	¾	2¼	0.89	18.6	3.72	4½
18	13½	¹¹⁄₁₆	2⅛	0.75	15.8	3.16	4
19	11	⅝	2	0.62	13.2	2.64	3½
20	9	⁹⁄₁₆	1¾	0.50	10.6	2.12	3
21	7½	½	1½	0.39	8.4	1.68	2½
22	6½	⁷⁄₁₆	1¼	0.30	6.6	1.32	2¼
23	5½	⅜	1⅛	0.22	4.8	0.96	2
24	4½	⁵⁄₁₆	1	0.15	3.4	0.68	1¾
25	4	⁹⁄₃₂	⅞	0.125	2.8	0.56	1½

NOTE.—When the Iron or Steel Rope named above is Galvanized or Tinned, add 10 per cent. to list price per foot. When made with *Wire centre*, add 10 per cent. to list price per foot.

This rope is much stiffer than Standard Hoisting Rope. It is made of six strands, each of which is composed of seven wires, and a hemp core or centre. It may have, if it is so desired, a wire centre, which adds from seven to ten per cent. to its strength, but it is then open to the objections already noted in remarks about Standard Hoisting Rope.

The wires of this variety of rope are one and two-third times greater in diameter than those of the Standard Hoisting Rope, and hence the rope is much less pliable and will not bend around as small sheaves. It is well adapted for haulages and transmissions, because the wires are large and are not quickly worn through. It will resist the rough usage of mine haulages and the great wear due to passing over a large number of pulleys and rollers.

The wires are fewer in number, however, and a greater factor of safety is desirable than for hoisting rope, because the breakage of one or two wires takes away a considerable amount of the total strength. In using steel, instead of iron rope, it is necessary to have the best quality.

For transmissions, the sizes from 1⅛ inch diameter down give excellent satisfaction, when properly selected.

Both the regular and Lang constructions are extensively used for haulages and inclined planes.

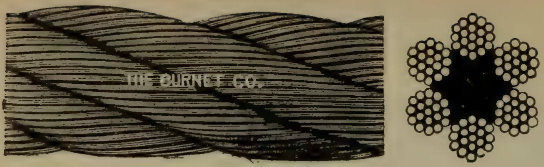


Fig. 550.

EXTRA STRONG CRUCIBLE CAST-STEEL ROPE.

Composed of 6 strands and a Hemp Centre; 19 Wires to the Strand.

Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
. .	255	2¾	8⅝	11.95	266	53	10
. .	210	2½	7⅞	9.85	222	45	9½
1	170	2¼	7⅛	8.00	182	36.4	8½
2	134	2	6¼	6.30	144	28.8	8
3	115	1¾	5½	4.85	112	22.4	7¼
4	91	1⅝	5	4.15	97	19.4	6¼
5	80	1½	4¾	3.55	84	16.8	5¾
5½	67	1⅜	4¼	3.00	72	14.4	5½
6	55	1¼	4	2.45	58	11.6	5
7	45	1⅛	3½	2.00	49	9.80	4½
8	36	1	3	1.58	39	7.80	4
9	28	⅞	2¾	1.20	30	6.00	3½
10	22	¾	2¼	0.89	22	4.40	3
10¼	16½	⅝	2	0.62	15.8	3.16	2¼
10½	14	9/16	1¾	0.50	12.7	2.54	1¾
10¾	12½	½	1½	0.39	10.1	2.02	1½
10*a*	11½	7/16	1¼	0.30	7.8	1.56	1¼
10*b*	11	⅜	1⅛	0.22	5.78	1.15	1
10*c*	10¾	5/16	1	0.15	4.05	0.81	⅔
10*d*	10½	¼	¾	0.10	2.70	0.54	½

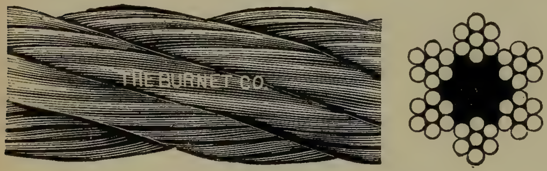


Fig. 551.

EXTRA STRONG CRUCIBLE CAST-STEEL ROPE.

Composed of 6 Strands and a Hemp Centre; 7 Wires to the Strand.

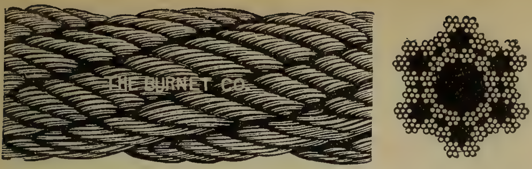
Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
11	75	1½	4¾	3.55	79	15.8	8½
12	64	1⅜	4¼	3.00	68	13 6	8
13	53	1¼	4	2.45	56	11.2	7¼
14	44	1⅛	3½	2.00	46	9.20	6¼
15	34	1	3	1.58	37	7.40	5¾
16	26	⅞	2¾	1.20	28	5.60	5
17	20	¾	2¼	0.89	21	4.20	4½
18	17	11/16	2⅛	0.75	18.4	3.68	4
19	14	⅝	2	0.62	15.1	3.02	3½
20	11½	9/16	1¾	0.50	12.3	2.46	3
21	9½	½	1½	0.39	9.70	1.94	2½
22	7¼	7/16	1¼	0.30	7.50	1.50	2¼
23	6	⅜	1⅛	0.22	5.58	1.11	2
24	5½	5/16	1	0.15	3.88	0.77	1¾
25	5	9/32	⅞	0.125	3.22	0.64	1½

NOTE.—When the Rope named above is Galvanized or Tinned, add 10 per cent. to list price per foot. When made with *Wire centre*, add 10 per cent. to list price per foot.

This variety of rope is regularly made with seven or nineteen wires to the strand. It may, however, be ordered with any number of strands and wires desired.

It possesses great strength and toughness, occupying a place intermediate between standard crucible steel rope and plough-steel rope.

It is made of a high grade of crucible cast-steel, especially prepared, so as to give tensile strength and other physical properties, which fit it for heavy work.


THE BURNET CO.

TILLER ROPE.

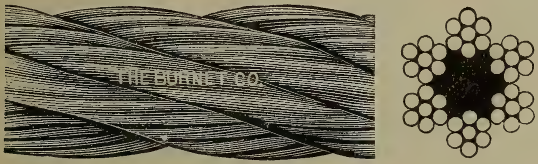
Composed of 6 Ropes and a Hemp Centre.

Each Rope consisting of 6 Stands of 7 Wires each and a Hemp Core.

Fig. 552.

Price in Cents per Foot. Iron.	Price in Cents per Foot. Cast steel.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.
33	43	1	3	1.10
27	36	7/8	2¾	0.84
22	30	3/4	2¼	0.62
17	24	5/8	2	0.43
14	19	9/16	1¾	0.35
11	17	1/2	1½	0.28
10	15	7/16	1¼	0.21
9	14	3/8	1⅛	0.16
8	12½	5/16	1	0.11
7½	11	1/4	3/4	0.07

Tiller Ropes are used for steering ropes on river steamers, for hand ropes on elevators, and in any place where a smooth and extremely flexible rope is required. They are composed of 252 wires, and are made up of a hemp core, around which are twisted six ropes, each of which consists of six strands, inclosing a hemp centre. They will pass around very small pulleys and sheaves. The wires are necessarily very fine, and should not be subjected to scraping of any kind or much frictional wear.


THE BURNET CO.

GALVANIZED IRON WIRE ROPE

FOR SHIPS' RIGGING AND DERRICK GUYS.

Composed of 6 Strands and a Hemp Centre, 7 or 12 Wires to the Strand.

Fig. 553.

Price in Cents per Foot. With 7 Wires to the Strand.	Price in Cents per Foot. With 12 Wires to the Strand	Approximate Diameter in Inches.	Circumference in Inches.	Weight per Foot in Pounds	Approximate Breaking Strain in Tons of 2000 Pounds.	Circumference in Inches of New Manila Rope of Equal Strength.
44	46	1¾	5½	4.85	44.	11
41	43	1 11/16	5¼	4.40	40.	10½
38	40	1⅝	5	4.00	36.	10
35	37	1½	4¾	3.60	32.	9½
31	33	1 7/16	4½	3.25	29.	9
27	29	1⅜	4¼	2.90	26.	8½
24	25	1¼	4	2.55	23.	8
21	22	1 3/16	3¾	2.25	20.	7½
18	19	1⅛	3½	1.95	18.	6½
16	17	1 1/16	3¼	1.70	15.	6
14	15	1	3	1.44	13.	5¾
12	. . .	7/8	2¾	1.21	11.	5¼
10	. . .	13/16	2½	1.00	9.0	5
9	. . .	3/4	2¼	0.81	7.3	4¾
8	. . .	5/8	2	0.64	5.8	4½
7	. . .	9/16	1¾	0 49	4.4	3¾
6	. . .	1/2	1½	0.36	3.2	3
5	. . .	7/16	1¼	0.25	2.3	2½
4	. . .	3/8	1⅛	0.20	1.8	2¼
3½	. . .	5/16	1	0.16	1.4	2
5 Strands, 7 Wires Each.						
3	. . .	9/32	7/8	0.123	1.1	1¾
2½	. . .	1/4	3/4	0 090	0.81	1½
2¼	. . .	7/32	5/8	0.063	0.56	1¼
2	. . .	3/16	1/2	0.040	0.36	1⅛

NOTE.—When made with *wire centre*, add 10 per cent. to price per foot.

Galvanized rope is much better for guys for derricks than hemp rope or rods linked together.

If galvanized rope of greater strength than that mentioned in the table is desired, we are prepared to furnish open-hearth, cast-steel or plough-steel wire rope, suitably galvanized, instead of iron wire rope.

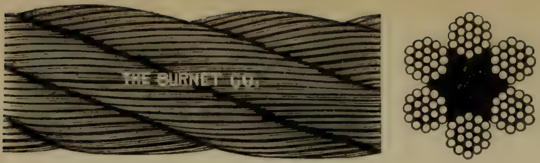

THE BURNET CO.

Fig. 554.

PLOW STEEL ROPE.

Composed of 6 Strands and a Hemp Center, 19 Wires to the Strand.

Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
. .	300	2¾	8⅝	11.95	305	61.0	11
. .	250	2½	7⅞	9.85	254	50.8	10
1	200	2¼	7⅛	8.00	208	41.6	9
2	156	2	6¼	6.30	165	33.0	8
3	135	1¾	5½	4.85	128	25.6	7½
4	108	1⅝	5	4.15	111	22.2	6
5	93	1½	4¾	3.55	96	19.2	5½
5½	77	1⅜	4¼	3.00	82	16.4	5¼
6	63	1¼	4	2.45	67	13.4	5
7	52	1⅛	3½	2.00	56	11.2	4½
8	43	1	3	1.58	44	8.80	4¼
9	34	⅞	2¾	1.20	34	6.80	3¾
10	26	¾	2¼	0.89	25	5.00	3½
10¼	19	⅝	2	0.62	18	3.60	3
10½	16	9/16	1¾	0.50	14.5	2.90	2½
10¾	14	½	1½	0.39	11.4	2.28	2
10*a*	13	7/16	1¼	0.30	8.85	1.77	1½
10*b*	12½	⅜	1⅛	0.22	6.55	1.31	1
10*c*	12¼	5/16	1	0.15	4.50	0.90	⅞
10*d*	12	¼	¾	0.10	3.00	0.60	⅔

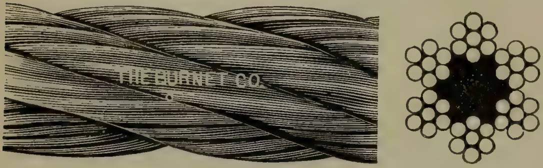

THE BURNET CO.

Fig. 555.

PLOUGH-STEEL ROPE.

Composed of 6 Strands and a Hemp Centre.
Seven Wires to the Strand.

Trade Number.	Price in Cents per Foot.	Diameter in Inches.	Approximate Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Allowable Working Strain in Tons of 2000 Pounds.	Minimum Size of Drum or Sheave in Feet.
11	90	1½	4¾	3.55	91	18.2	8½
12	75	1⅜	4¼	3.00	78	15.6	8
13	61	1¼	4	2.45	64	12.8	7¼
14	51	1⅛	3½	2.00	53	10.6	6¼
15	41	1	3	1.58	42	8.40	5½
16	32	⅞	2¾	1.20	32	6.40	5
17	25	¾	2¼	0.89	24	4.80	4
18	20	11/16	2⅛	0.75	21	4.20	3½
19	17	⅝	2	0.62	17	3.40	3
20	14	9/16	1¾	0.50	14	2.80	2¾
21	11	½	1½	0.39	11	2.20	2½
22	8	7/16	1¼	0.30	8.55	1.71	2
23	6½	⅜	1⅛	0.22	6.35	1.27	1½
24	6	5/16	1	0.15	4.35	0.87	1¼
25	5½	9/32	⅞	0.125	3.65	0.73	1

NOTE.—When the Rope named above is Galvanized or Tinned, add 10 per cent. to list price per foot. When made with WIRE CENTER, add 10 per cent. to list price per foot.

Plough-Steel Wire is made from a high grade of crucible cast-steel, and will stand a strain of from 95 to 175 tons per square inch, according to the variety of steel used, the size of wire and the method of manufacturing and improving the wire.

Plough-Steel Ropes are used instead of cast-steel or iron where it is necessary to reduce the dead weight, as, for instance, with heavy or extremely long ropes, when the weight of the rope itself becomes a large item. They are also frequently employed when the load on the rope of an existing plant has been materially increased and the sheaves and drums cannot be altered to meet the new requirements. In this case the same size of rope, but made of plough steel, can be used with an increase in strength of 50 to 100 per cent. Plough-Steel Rope derives its name from the purpose for which it was originally intended—the ploughing of fields, an engine moving the rope to which the plough was attached. The ordinary iron and steel ropes were so quickly cut to pieces by stones and grit that something stronger and harder had to be obtained.

Plough-steel is, therefore, applicable to conditions involving great wear and rough usage. It is advisable to reduce all bends to a minimum and to use somewhat larger drums and sheaves than are suitable for the ordinary cast-steel rope, having a strength of 60 to 80 tons per square inch.

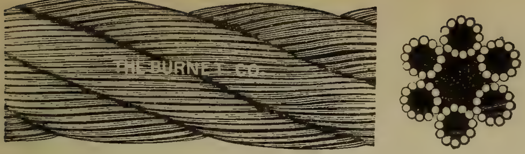


Fig. 556.

GALVANIZED IRON AND CAST-STEEL RUNNING ROPE.

Composed of 6 Strands and a Hemp Centre, each Strand consisting of 12 Wires and a Hemp Core.

Price in Cents per Foot. Iron.	Price in Cents per Foot. Cast-steel.	Approximate Diameter in Inches.	Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds. Iron.	Approximate Breaking Strain in Tons of 2000 Pounds. Cast-steel.
22	30	$1\frac{1}{16}$	$3\frac{1}{4}$	1.14	12.0	24.0
20	27	1	3	0.97	10.7	21.5
17	23	$\frac{7}{8}$	$2\frac{3}{4}$	0.81	8.21	16.4
$14\frac{1}{2}$	19	$\frac{13}{16}$	$2\frac{1}{2}$	0.67	7.20	14.4
$11\frac{1}{2}$	15	$\frac{3}{4}$	$2\frac{1}{4}$	0.54	6.13	12.3
9	12	$\frac{5}{8}$	2	0.43	4.29	8.58
8	10	$\frac{9}{16}$	$1\frac{3}{4}$	0.33	3.47	6.94
7	9	$\frac{1}{2}$	$1\frac{1}{2}$	0.24	2.78	5.56
$6\frac{1}{2}$	$8\frac{1}{2}$	$\frac{7}{16}$	$1\frac{1}{4}$	0.17	2.15	4.30
6	$7\frac{3}{4}$	$\frac{3}{8}$	$1\frac{1}{8}$			
$5\frac{1}{2}$	7	$\frac{5}{16}$	1	0.11	1.14	2.28

Galvanizd Flexible Running Ropes are similar in construction to Galvanized Hawsers. They are composed of six strands inclosing a hemp core, each strand being made of twelve wires and a hemp centre. They are quite as flexible as manila running rope; much stronger and more durable.

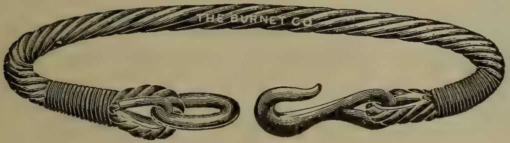


Fig. 557.

CAST-STEEL SWITCHING ROPES AND WRECKING ROPES.

Hook and thimble in one end; thimble and link in other end.

PRICE, EACH.

Length in Feet.	Diameter in Inches. $1\frac{1}{4}$	$1\frac{1}{8}$	1	$\frac{7}{8}$	$\frac{3}{4}$
20	$24.00	$20.00	$16.50	$14.00	$11.50
25	26.25	22.00	18.00	15.15	12.40
30	28.50	24.00	19.50	16.30	13.30
35	30.75	26.00	21.00	17.45	14.20
40	33.00	28.00	22.50	18.60	15.10
45	35.25	30.00	24.00	19.75	16.00
50	37.50	32.00	25.50	20.90	16.90

Hook thimble and link in one end; thimble and two links in other end.

PRICE, EACH.

20	$27.00	$22.50	$18.50	$15.75	$13.00
25	29.25	24.50	20.00	16.90	13.90
30	31.50	26.50	21.50	18.05	14.80
35	33.75	28.50	23.00	19.20	15.70
40	36.00	30.50	24.50	20.35	16.60
45	38.25	32.50	26.00	21.50	17.50
50	40.50	34.50	27.50	22.65	18.40

Diameter of rope in inches	$1\frac{1}{4}$	$1\frac{1}{8}$	1	$\frac{7}{8}$	[illegible]
Breaking strain in tons of 2000 lbs.	50	42	34	26	[illegible]

LIST FOR LABOR OF SPLICING ROPE TO MAKE ENDLESS.

Diameter of Rope in Inches.	List for Splicing.	Diameter of Rope in Inches.	List for Splicing.
$1\frac{1}{2}$ to $1\frac{1}{4}$	$4.00	$\frac{7}{16}$ to $\frac{3}{8}$	$2.50
$1\frac{1}{8}$ to $\frac{7}{8}$	3.50	$\frac{5}{16}$ to $\frac{1}{4}$	2.00
$\frac{3}{4}$ to $\frac{1}{2}$	3.00		

The charge named to be in addition to the charge made for rope used in making the splice. The prices named to apply only on wire ropes spliced at the works of the manufacturer Special charge will be made for splicing done elsewhere; such charge depending on the circumstances of each individual case.

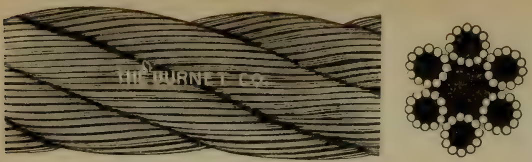
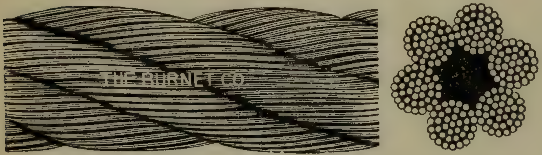

THE BURNET CO.

Fig. 558.

GALVANIZED STEEL HAWSERS.

Composed of 6 Strands and a Hemp Centre, each Strand Consisting of 12 Wires and a Hemp Core.

Price in Cents per Foot.	Approximate Diameter in Inches	Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	Circumference in Inches of New Manila Hawser of Equal Strength.
85	1 3/4	5 1/2	3.25	61.	13 1/2
72	1 11/16	5 1/4	2.95	57.	13
62	1 5/8	5	2.70	53.	12 1/2
56	1 1/2	4 3/4	2.42	45.	12
50	1 7/16	4 1/2	2.18	42.	11 1/2
45	1 3/8	4 1/4	1.94	39.	11
40	1 1/4	4	1.72	32.	10
36	1 3/16	3 3/4	1.51	29.	9 1/4
33	1 1/8	3 1/2	1.32	27.	8 3/4
30	1 1/16	3 1/4	1.14	24.	8 1/2
27	1	3	0.97	21.5	8
23	7/8	2 3/4	0.81	16.4	6 1/2
19	13/16	2 1/2	0.67	14.4	6
15	3/4	2 1/4	0.54	12.3	5 1/2


THE BURNET CO.

GALVANIZED STEEL HAWSERS.

Composed of 6 Strands and a Hemp Centre, 37 Wires to the Strand.

Fig. 559.

Price in Cents per Foot.	Approximate Diameter in Inches.	Circumference in Inches.	Weight per Foot in Pounds.	Approximate Breaking Strain in Tons of 2000 Pounds.	
				Cast-Steel.	Special.
. . .	2	6 1/4	6.25	128	166
. . .	1 3/4	5 1/2	4.85	101	131
. . .	1 5/8	5	4.00	84	109
. . .	1 1/2	4 3/4	3.60	76	99
. . .	1 3/8	4 1/4	2.90	62	81
. . .	1 1/4	4	2.55	55	72
. . .	1 1/8	3 1/2	1.95	42	55
. . .	1	3	1.44	31	40

Prices on application. These Hawsers combine great strength with pliability.

GALVANIZED STEEL WIRE STRAND.

For Smokestack Guys, Signal Strand, Trolley Line, Span Wire and Other Purposes. Composed of 7 Wires Twisted Together.

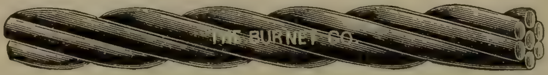
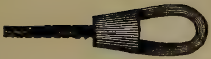

THE BURNET CO.

Fig. 560.

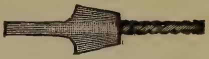
Diameter, inches . .	1/2	7/16	3/8	5/16	1/4	3/16	5/32	1/8	3/32
Weight per 100 ft. pounds	52	40	30	22	13	8	5	3 1/2	2 1/4
Approximate Breaking Strain in pounds .	8320	6000	4700	3300	1750	1000	700	375	320
Price in cents per 100 feet	315	250	200	160	115	80	60	45	35

WIRE ROPE FASTENINGS.

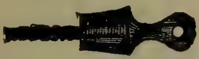
Made of the Best Forged Wrought Iron.

Fig. 561. 

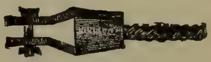
CLOSED SOCKETS.

 Fig. 561.

Diam. Rope in Inches.	Circum. of Rope in Inches.	For Cast-Steel Rope.		For Iron Rope.	
		Loose.	Fastened.	Loose.	Fastened.
2¼	7⅛	$19.00	$22.00	$15.00	$18.00
2	6¼	17.00	19.75	12.00	14.75
1¾	5½	14.50	16.75	10.00	12.25
1⅝	5	12.00	14.00	8.00	10.00
1½	4¾	10.00	12.00	6.00	8.00
1⅜	4¼	8.00	9.75	4.75	6.50
1¼	4	6.00	7.75	3.75	5.50
1⅛	3½	4.50	6.00	3.00	4.50
1	3	3.75	5.00	2.75	4.00
⅞	2¾	3.00	4.25	2.50	3.75
¾	2¼	2.50	3.75	2.00	3.25
⅝	2	2.00	3.00	1.50	2.50
9/16	1¾	2.00	3.00	1.50	2.50
½	1½	1.60	2.50	1.25	2.15
7/16	1¼	1.60	2.50	1.25	2.15
⅜	1⅛	1.35	2.10	1.10	1.85
5/16	1	1.35	2.10	1.10	1.85
¼	¾	1.35	2 10	1.10	1.85

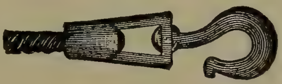
Fig. 562. 

OPEN SOCKETS

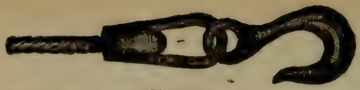
 Fig. 563.

2¼	7⅛	$22.00	$25.00	$18.00	$21.00
2	6¼	19.50	22.25	15.00	17.75
1¾	5½	17.00	19.25	12.50	14.75
1⅝	5	14.00	16.00	10.00	12.00
1½	4¾	11.75	13.75	7.75	9.75
1⅜	4¼	9.75	11.50	6.25	8.00
1¼	4	7.50	9.25	5.00	6.75
1⅛	3½	5.50	7.00	4.00	5.50
1	3	4 50	5.75	3.50	4.75
⅞	2¾	3.75	5.00	2.75	4.00
¾	2¼	3.25	4.50	2 50	3.75
⅝	2	2.60	3.60	2.00	3.00
9/16	1¾	2.60	3.60	2.00	3.00
½	1½	2.20	3.10	1.70	2.60
7/16	1¼	2.20	3 10	1.70	2.60
⅜	1⅛	1.90	2.65	1.50	2.25
5/16	1	1.90	2.65	1.50	2.25
¼	¾	1.90	2.65	1.50	2.25

SWIVEL HOOK AND SOCKET.

 Fig. 564.

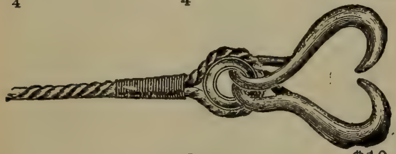
2¼	7⅛	$29.00	$32.00	$23.00	$26.00
2	6¼	25.00	27.75	19.00	21.75
1¾	5½	21.50	23.75	16.00	18.25
1⅝	5	17.50	19.50	13.00	15.00
1½	4¾	15.00	17.00	10.00	12.00
1⅜	4¼	12.50	14.25	8.50	10.25
1¼	4	10.00	12.25	7.25	9.00
1⅛	3½	8.50	10.00	6.25	7.75
1	3	7.50	8.75	5.75	7.00
⅞	2¾	6.50	7.75	5.25	6.50
¾	2¼	5.50	6.75	4.50	5.75
⅝	2	4.50	5.50	3.75	4.75
9/16	1¾	4.50	5.50	3.75	4.75
½	1½	3.60	4.50	3.25	4.15
7/16	1¼	3.60	4.50	3.25	4.15
⅜	1⅛	3.00	3.75	2.80	3.55
5/16	1	3.00	3.75	2.80	3.55
¼	¾	3.00	3.75	2.80	3.55



HOOK AND SOCKET.

Fig. 565.

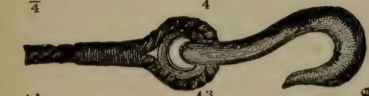
Diam. of Rope in Inches.	Circum. of Rope in Inches.	For Cast-Steel Rope. Loose.	For Cast-Steel Rope. Fastened.	For Iron Rope. Loose.	For Iron Rope. Fastened.
1½	4¾	$14.00	$16.00	$9.00	$11.00
1⅜	4¼	11.50	13.25	7.50	9.25
1¼	4	9.50	11.25	6.25	8.00
1⅛	3½	7.50	9.00	5.25	6.75
1	3	6.50	7.75	4.75	6.00
⅞	2¾	5.50	6.75	4.25	5.50
¾	2¼	4.50	5.75	3.50	4.75
⅝	2	3.50	4 50	2.75	3.75
9/16	1¾	3.50	4.50	2.75	3.75
½	1½	2.75	3.65	2.40	3.30
7/16	1¼	2.75	3.65	2.40	3.30
⅜	1⅛	2.25	3.00	2.00	2.75
5/16	1	2.25	3.00	2.00	2.75
¼	¾	2.25	3.00	2.00	2.75



SISTER HOOKS AND THIMBLE.

Fig. 566.

1½	4¾	$10.00	$12.00	$7.50	$9.50
1⅜	4¼	8.75	10.50	6.75	8.50
1¼	4	8.00	9.75	6.00	7.75
1⅛	3½	6.75	8.25	5.25	6.75
1	3	5.75	7.00	4.50	5.75
⅞	2¾	5.00	6.25	3.85	5.10
¾	2¼	4.15	5.40	3.25	4.50
⅝	2	3.30	4.30	2.75	3.75
9/16	1¾	3.30	4.30	2.75	3.75
½	1½	2.50	3.40	2.30	3.20
7/16	1¼	2.50	3.40	2.30	3.20
⅜	1⅛	2.20	2.95	1.90	2.65
5/16	1	2.20	2.95	1.90	2.65
¼	¾	2.20	2.95	1.90	2.65



HOOK AND THIMBLE.

Fig. 567.

1½	4¾	$10.00	$12.00	$7.50	$9.50
1⅜	4¼	8.75	10.50	6.75	8.50
1¼	4	8.00	9.75	6.00	7.75
1⅛	3½	6.75	8.25	5.25	6.75
1	3	5.75	7.00	4.50	5.75
⅞	2¾	5.00	6.25	3.85	5.10
¾	2¼	4.15	5.40	3.25	4.50
⅝	2	3.30	4.30	2.75	3.75
9/16	1¾	3.30	4.30	2.75	3.75
½	1½	2.50	3.40	2.30	3.20
7/16	1¼	2.50	3.40	2.30	3.20
⅜	1⅛	2.20	2.95	1.90	2.65
5/16	1	2.20	2.95	1.90	2.65
¼	¾	2.20	2.95	1.90	2.65

STEEL WIRE ROPE THIMBLES.—GALVANIZED.

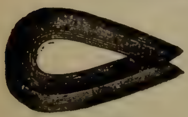


Fig. 568.

Width of Score, .	¼	5/16	⅜	7/16	½	⅝	¾	⅞
Circumference of Rope,	¾	⅞	1	1¼	1½	2	2½	2¾
Price per Dozen, .	$1.10	1.15	1.20	1.30	1.40	1.60	1.75	2.00
Width of Score, .	1	1⅛	1¼	1⅜	1½	1⅝	1¾	2
Circumference of Rope,	3	3½	3¾	4	4½	5	5½	6
Price per Dozen, .	$2.25	2.50	3.25	4.00	4.50	5.50	6.50	9.00

OPEN (ROUND) THIMBLES.

Galvanized, . . .	⅞, 1, 1¼ inch, per Dozen,	$0.28.	1⅜ to 6 inch,	$0.21
Japanned, . . .	⅞, 1, 1¼ " " "	.24.	1⅜ to 6 "	.17

To get the size, measure across the hole in the Thimble, from edge to edge, giving full diameter.

THIMBLE SPLICED ON ROPE.

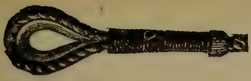


Fig. 569.

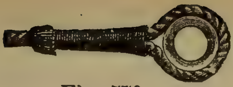


Fig. 570.

Diameter of Rope in Inches.	Circumference of Rope in Inches.	For Cast Steel Rope.	For Iron Rope.
1½	4¾	$6.00	$4.50
1⅜	4¼	5.25	4.00
1¼	4	4.50	3.50
1⅛	3½	3.75	3.00
1	3	3.00	2.50
⅞	2¾	2.50	2.10
¾	2¼	2.15	1.75
⅝	2	1.80	1.50
9/16	1¾	1.80	1.50
½	1½	1.60	1.35
7/16	1¼	1.60	1.35
⅜	1⅛	1.40	1.15
5/16	1	1.40	1.15
¼	¾	1.40	1.15

THE "JUPITER" WIRE ROPE CLIP.

Compact, Inexpensive, Simple.

The "Jupiter" Clip is practically in one piece. It is applied by simply loosening the nut, swinging back the bolt, putting rope to be secured into score, and then swinging the bolt forward to its former position and tightening the nut.

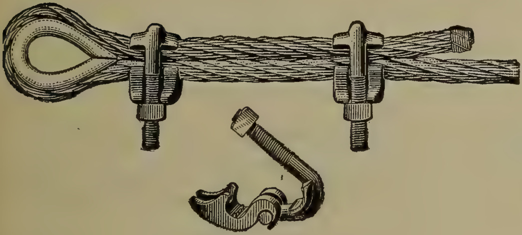


Fig. 571.

Diameter of Rope in Inches.	Circumference of Rope in Inches.	Price in Cents.
1½	4¾	60
1⅜	4¼	55
1¼	4	50
1⅛	3½	50
1	3	50
⅞	2¾	45
¾	2¼	40
⅝	2	35
½	1½	30
⅜	1⅛	25
5/16	1	25
¼	¾	25

THE "CROSBY" DROP FORGED WIRE ROPE CLIP.

Light, Durable and Convenient.

Can't be broken. The safest clip on the market.

Die forged of 60,000-pound T. S. steel.

Will stand hammering, bending and frost.

You can't make them slip or break.

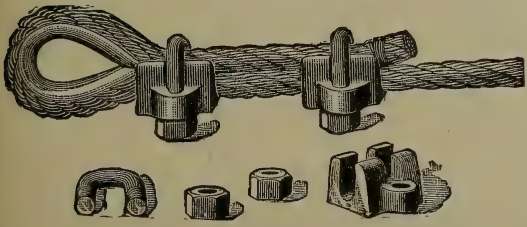


Fig. 572.

Diameter of Rope in Inches.	Circumference of Rope in Inches.	Price in Cents.
2½	7⅞	600
2¼	7⅛	500
2	6¼	400
1¾	5½	350
1½	4¾	60
1⅜	4¼	55
1¼	4	50
1⅛	3½	50
1	3	50
⅞	2¾	45
¾	2¼	40
⅝	2	35
½	1½	30
⅜	1⅛	25
5/16	1	25
¼	¾	25

PATENT WIRE ROPE CLAMP.

Made with either two or three Bolts.

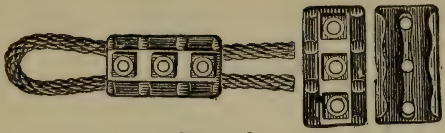


Fig 573.

Price in Cents	Diam. of Rope in In.	Circum of Rope in In.	Price in Cents.	Diam of Rope in In.	Circum of Rope in In.
800	$2\frac{1}{4}$	$7\frac{1}{8}$	60	1	3
500	2	$6\frac{1}{4}$	50	$\frac{7}{8}$	$2\frac{3}{4}$
400	$1\frac{3}{4}$	$5\frac{1}{2}$	45	$\frac{13}{16}$	$2\frac{1}{2}$
300	$1\frac{5}{8}$	5	40	$\frac{3}{4}$	$2\frac{1}{4}$
150	$1\frac{7}{16}$	$4\frac{1}{2}$	35	$\frac{5}{8}$	2
110	$1\frac{1}{4}$	4	33	$\frac{9}{16}$	$1\frac{3}{4}$
90	$1\frac{3}{16}$	$3\frac{3}{4}$	30	$\frac{1}{2}$	$1\frac{1}{2}$
75	$1\frac{1}{8}$	$3\frac{1}{2}$	28	$\frac{7}{16}$	$1\frac{1}{4}$
65	$1\frac{1}{16}$	$3\frac{1}{4}$	25	$\frac{5}{16}$	1

SUPENSION BRIDGE AND CABLE-WAY SOCKETS.

CAST IRON.

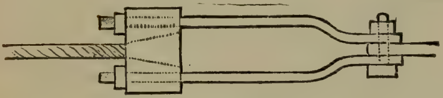


Fig. 574.

CLOSED SOCKET.

Prices on application.

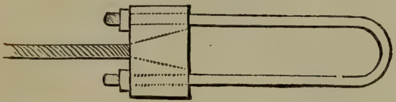


Fig. 575.

OPEN SOCKET.

Prices on application.

SOCKET WITH TURN BUCKLE.

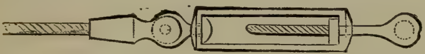


Fig. 576.

Prices according to size and weight.

SOCKET WITH CHAIN.

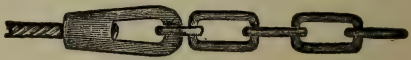


Fig. 577.

Prices according to size and length of chain.

SOLID IRON SHEAVES.

FOR ELEVATORS AND DERRICKS.

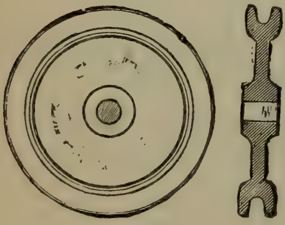


Fig. 578.

Price Bored to Fit Shaft.	Diam in Inches at Bot of Groove.	Diam. In In. over all.	Approximate Weight in Pounds.	Diameter of Largest Rope Fitting Groove in Inches.
$12.00	30	33	205	1
11.00	28	31	167	1
10.00	26	29	156	1
9.00	24	27	130	1
7.00	22	25	123	1
5.50	20	23	116	1
4.50	18	$20\frac{1}{4}$	92	1
3.50	16	$18\frac{1}{2}$	60	$1\frac{1}{8}$
2.75	14	$16\frac{3}{4}$	39	1
2.00	12	$13\frac{5}{8}$	28	1
1.75	10	$12\frac{1}{8}$	23	$\frac{3}{4}$
1.50	8	10	20	$\frac{9}{16}$

In ordering always state diameter of sheave at bottom of groove.

LIGHT IRON HOISTING SHEAVES.

(SPOKE SHEAVE.)

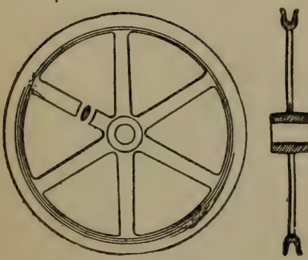


Fig. 579.

Price Bored to Fit Shaft.	Diam. in Inches at Bot. of Groove.	Diam. in In. over all.	Approximate Weight in Pounds.	Diameter of Largest Rope Fitting Groove in Inches.
$6.00	30	33	90	1
4.00	24	27	56	1
3.00	18	$20\frac{1}{2}$	31	$\frac{7}{8}$
2.50	16	18	22	$\frac{11}{16}$
2.25	14	16	23	$\frac{3}{4}$
1.75	12	$13\frac{3}{4}$	17	$\frac{11}{16}$

In ordering always state diameter of sheaves at bottom of groove.

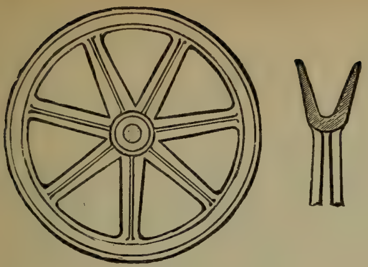


Fig. 580.

HEAVY IRON HOISTING SHEAVES.

Price, Bored to Fit Shaft.	Diameter in Feet at Bottom of Groove.	Diameter in Feet and Inches over all.	Approximate Weight in Pounds.	Diameter of Largest Rope Fitting Groove in Inches.
$75.00	6	6—7½	1278	1¾
45.00	5	5 7	886	1½
35.00	4	4 5½	622	1¼
22.00	3	3 5¼	414	1

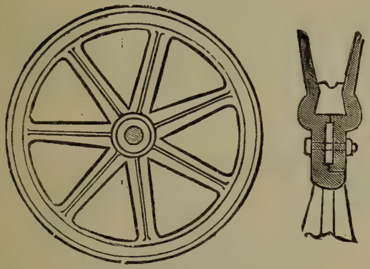


Fig. 581.

WITH WOOD-LINED GROOVES.

$130.00	6	6 - 7¾	1300	1¾
72.00	5	5 - 5¼	975	1½
60.00	4	4 6	700	1¼
45.00	3	3—6¼	470	1

Special prices on both of the above classes of Heavy Iron Sheaves of larger diameters, with cast or wrought-iron arms.

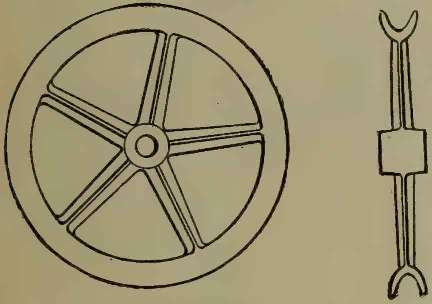


Fig. 582.

LIGHT-ARM SUPPORTING SHEAVES.

With Wide Grooves.

Price, Bored to Fit Shaft.	Diameter in Inches at Bottom of Groove.	Diameter in Inches over all.	Approximate Weight in Pounds.
$11.00	30	35	170
9.00	28	32	147
8.00	26	30	133
6.00	24	27½	88
5.80	22	25½	85
4.40	20	23	55
3.60	18	21	46
3.40	16	18½	38
2.80	14	16¼	27
2.50	12	14	22

Sheaves also fitted with set screws.

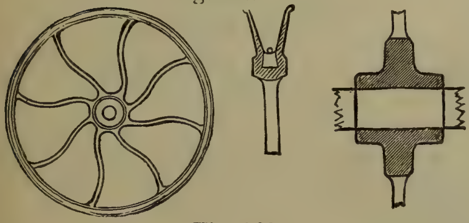


Fig. 583.

Sheaves bored to fit shaft. Grooves filled with patent rubber and leather lining.

In ordering always state diameter of sheave at bottom of groove.

SHEAVES.

For Transmission of Power by Wire Rope.

Price, Bored and Lined.	Diameter in Feet at Bottom of Groove.	Diameter in Feet and Inches over all.	Approximate Weight in Pounds.
*$235.00	12	12 8	3440
*220.00	11	11 9	3000
*150.00	10	10 - 8	2400
120.00	9	9—8	1800
95.00	8	8—8	1390
72.00	7	7—8	975
59.00	6	6—6¾	800
37.00	5	5—5	450
24.00	4	4 - 5¼	275
15.00	3	3—3	161
10.50	2½	2 8	95
7.50	2	2 2	66
5.50	1½	1 8	46

* Cast in halves; all others solid unless specified. Prices for larger sheaves on application.

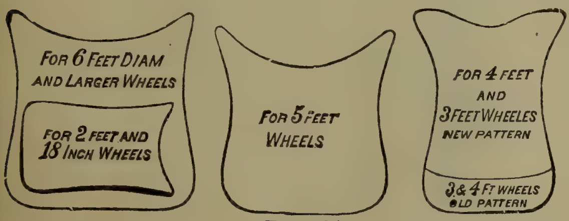

For 6 Feet Diam and Larger Wheels
For 2 Feet and 18 Inch Wheels
For 5 Feet Wheels
For 4 Feet and 3 Feet Wheels New Pattern
3 & 4 Ft Wheels Old Pattern

Fig. 584.

PATENT RUBBER AND LEATHER LINING FOR SHEAVES.

For Transmission of Power by Wire Rope.

Price per set of filling for different sizes of sheaves furnished on application. Cuts show reduced sections.

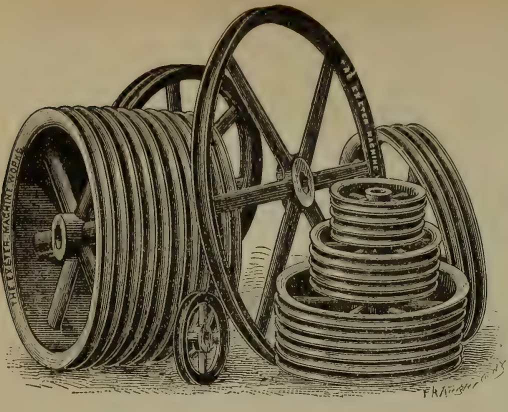


Fig. 585.

MANILA ROPE TRANSMISSION.

IRON SHEAVE WHEELS FOR ROPE DRIVE.

We are prepared to furnish wheels from 24 inches up to 20 feet diameter, grooved for rope from $\frac{3}{4}$ inch up to $3\frac{1}{4}$ inches diameter.

Prices Quoted on Specifications.

SOLID IRON SHEAVES,

FOR ELEVATORS, DERRICKS, ETC.

Made from 2 to 38 inches diameter. Taking rope $\frac{1}{2}$ to $2\frac{1}{2}$ inches diameter.

DOUBLE GROOVED SHEAVES.

36 inches diameter, . .	$\frac{3}{8}$ to $\frac{5}{8}$ size of rope.
48 " " . .	$\frac{3}{8}$ to $\frac{5}{8}$ " " "

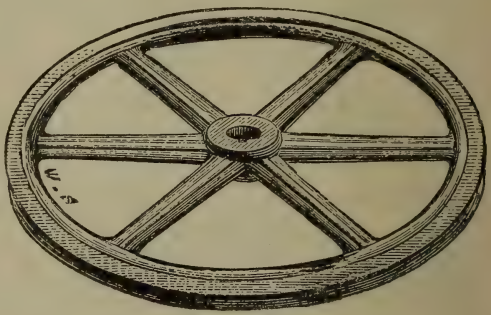


Fig. 586.

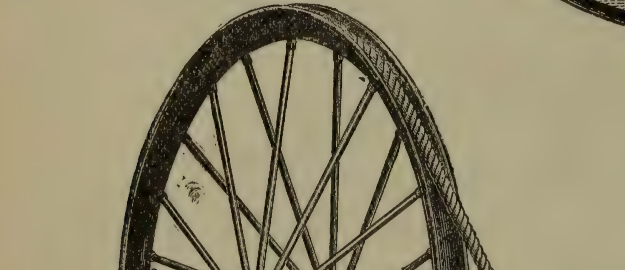


Fig. 587.

WROUGHT SPOKE SHEAVE.

FOR SHAFT AND SLOPE HEAD FRAMES.

Made from 6 feet to 14 feet diameter.

Prices Quoted on Application.

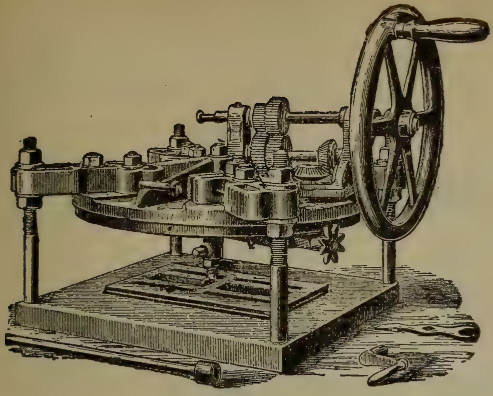


Fig. 588.

PORTABLE VALVE SEAT ROTARY PLANING MACHINE.

Size.	Weight.	Price.
18-inch	210 lbs. net	$225.00
22 "	235 "	240.00
26 "	350 "	260.00

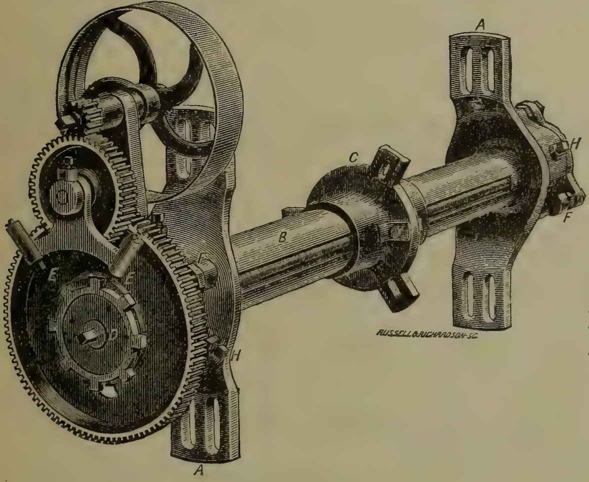


Fig. 589.

CYLINDER BORING BAR.

This Boring Bar is intended for boring locomotive cylinders before or after they are placed in position, and only needs a trial to be appreciated.

Price $285.00

IMPROVED PORTABLE LOCOMOTIVE CYLINDER BORING BAR AND FIXTURES.

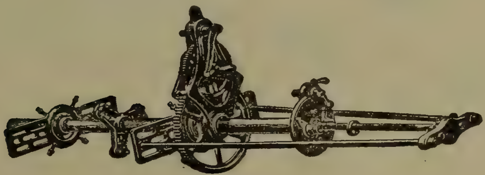


Fig. 590.

This Portable Boring Bar and Fixtures is designed to bore out Locomotive Cylinders in place. The fixtures that go with the Bar allow cylinders to be bored where it is not desirable to take off the cylinder and guides.

2½ Inch Bar	Weight, Boxed 487 lbs.	Price, $290.00
3 " "	" " 709 "	" ......
3¼ " "	" " 938 "	" 360.00

PATENT PLAIN BACK EXTRA RAILROAD SHOVELS.

Extra Heavy, Solid Crucible Cast-steel, Socket Strap Shovels and Spades, Especially Adapted for Mining and Railroad Purposes.

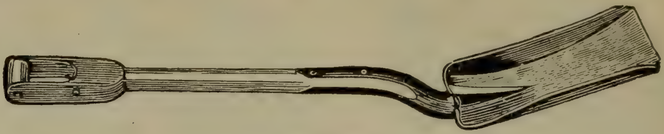


Fig. 591.

D or Long Handles. Square or Round Points.

GRIFFITHS.

Size number	2	3	4	5	6
Black, per dozen	$18.50	$19.00	$19.50	$20.00	$20.50

Patent Socket Straps, Solid Cast-steel Shovels and Spades.

DOUGLAS. G. H. BARTLETT. DENIN.

Size number	2	3	4	5	6
Black, per dozen	$17.00	$17.50	$18.00	$18.50	$19.00

PATENT PLAIN BACK.

Patent Socket Straps, Solid Cast-steel Shovels and Spades.

SAXTON. BOARDMAN. BAXTER.

Size number	2	3	4	5	6	7	8
Black, per dozen	$15.50	$16.00	$16.50	$17 00	$17.50	$18.00	$18.50

WEBSTER. ROWLAND. WEBBER.

Size number	2	3	4	5	6	7	8
Black, per dozen	$14.00	$14.50	$15.00	$15.50	$16.00	$16.50	$17.00

For polished add 50 cents per dozen to above lists.

PLAIN BACK CAST-STEEL RAILROAD SHOVELS AND SPADES.

D or Long Handles. Square or Round Points.

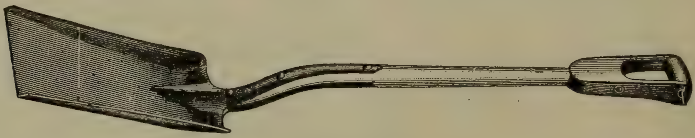


Fig. 592.

PFEIFER. SCRANTON.

Size number	2	3	4	5	6
Black, per dozen	$17.00	$17.50	$18.00	$18.50	$19.00

KING. NILEB.

Size number	2	3	4	5	6	7	8
Black, per dozen	$15 50	$16.00	$16 50	$17.00	$17.50	$18.00	$18 50

JOHNSON. NICHOLS. ROWLAND.

Size number	2	3	4	5	6
Black, per dozen	$14.00	$14 50	$15.00	$15.50	$16.00

DYE. EMPIRE. XXX.

Size number	2	3	4	5	6
Black, per dozen	$13.00	$13.50	$14.00	$14.50	$15.00

For polished add 50 cents per dozen to above lists.

RAILROAD PATENT PLAIN BACK SOLID CAST-STEEL SHOVELS AND SPADES.

EXTRA WIDE STRAPS.

D or Long Handles. Square or Round Points.

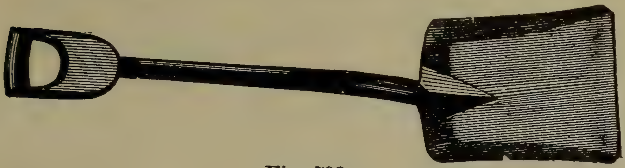


Fig. 593.

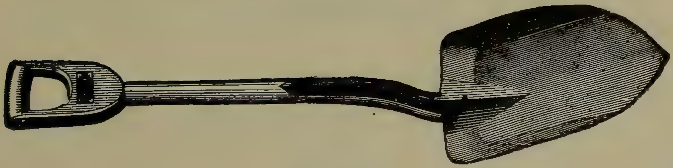


Fig. 594.

GRIFFITHS.

Size number	2	3	4	5	6	7	8
Black, per dozen	$18.50	$19.00	$19.50	$20.00	$20.50	$21.00	$21.50

DANFORTH.

Size number	2	3
Black, per dozen	$17.00	$17.50

JACKSON.

Size number	2	3	4	5	6	7	8
Black, per dozen	$15.50	$16.00	$16.50	$17.00	$17.50	$18.00	$18.50

HARLAN.

Size number	2	3	4	5	6	7	8
Black, per dozen	$14.00	$14.50	$15.00	$15.50	$16.00	$16.50	$17.00

PENN.

Size number	2	3	4	5	6	7	8
Black, per dozen	$13.00	$13 50	$14.00	$14.50	$15.00	$15.50	$16.00

For polished, add 50 cents per dozen to above lists.

PATENT NARROW MOUTH LOCOMOTIVE AND NO. 0 NARROW GAUGE FURNACE SCOOP.

PLAIN BLACK, CRUCIBLE CAST-STEEL.

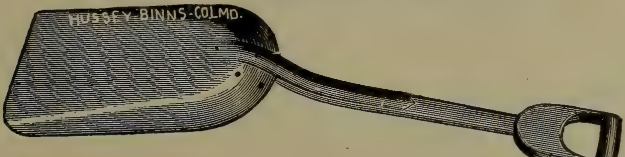

HUSSEY-BINNS-COLMD.

Fig. 595.

Size number	0 and 2	3	4	5	6	7	8
Black, per dozen	$19.00	$19.70	$20.40	$21.10	$21.80	$22.50	$23.20

PITTSBURG SOCKET OR HOLLOW BACK COAL AND LOCOMOTIVE SCOOP.

Size number	2	3	4	5	6	7	8
Black, per dozen	$18.00	$18.70	$19.40	$20.10	$20.80	$21.50	$22.20

BACK STRAP EXTRA CAST-STEEL LOCOMOTIVE SCOOPS.

NORTH-EASTON PATTERN.

Size number	2	3	4	5	6	7	8	10
Polished, per dozen	$20.50	$21.00	$21.50	$22.00	$22.50	$23.00	$23.50	$24.50

Finished in Black, 50 cents per dozen less.

PLAIN BACK, EXTRA SOLID STEEL SHOVELS AND SPADES.

Plain or Socket Straps

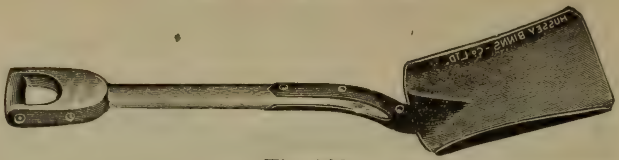


Fig. 596.

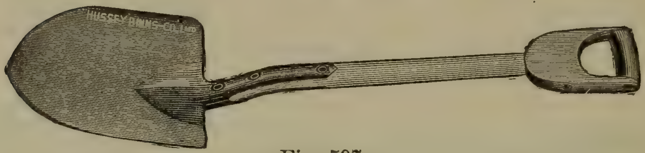


Fig. 597.

PENNSYLVANIA. EXTRA SOLID STEEL.

Size number	2	3	4	5	6
Black, per dozen	$35 50	$36.75	$38.00	$39.25	$40.50

OLIVER. SOLID STEEL.

Size number	2	3	4	5	6
Black, per dozen	$34.00	$35 25	$36.50	$37.75	$39.00

NEWTON. SOLID STEEL.

Size number	2	3	4	5	6
Black, per dozen	$31.00	$32.25	$33.50	$34.75	$36.00

GREY. SOLID STEEL.

Size number	2	3	4	5	6
Black, per dozen	$29.00	$30.25	$31.50	$32.75	$34 00

MANHATTAN. SOLID STEEL. PLAIN STRAPS ONLY.

Size number	2	3	4	5	6
Black, per dozen	$27.50	$28.75	$30.00	$31.25	$32.50

"EX." SOLID STEEL. PLAIN STRAPS ONLY.

Size number	2	3	4	5	6
Black, per dozen	$26.00	$27.25	$28.50	$29.75	$31.00

In above lists round point sizes are Nos. 2, 3 and 4.
For polished shovels and spades add to above lists $1.25 per dozen.

PATENT PLAIN BACK, SOLID CRUCIBLE CAST-STEEL SHOVELS AND SPADES.

Square and Round Point.

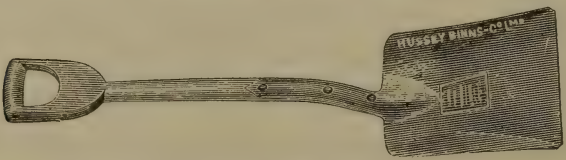


Fig. 598.

Size number	2	3	4	5	6	7
Black, per dozen	$37.00	$38.50	$40.00	$41 50	$43.00	$44.50

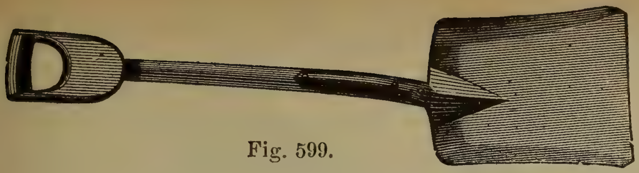


Fig. 599.

OLIVER AMES & SONS' CORPORATION SHOVELS.

PLAIN BACK D HANDLE, SQUARE POINT.

O. AMES.

Cast-steel Edge, Plated.

The Blade and Straps are Swede Steel, with Crucible Cast-steel Edge.

Number	21	22	23	24	25	26	27	28	29	30	31	32
Size	1	2	3	4	5	6	7	8	9	10	11	12
Black, per doz.,	$11.75	12.00	12.50	13.00	14.00	15.00	16.00	17.00	18.00	19.50	20.50	22.50

Polished, per doz., . No. 21, Size 1, $12.50. No. 22, Size 2, $12.75. No. 23, Size 3, $13.25

T. M. PORTER.

PLAIN BACK, STEEL-EDGE PLATED, SQUARE POINT.

Number .	113	114	115	116	117	118	119
Size . .	2	3	4	5	6	7	8
Black, per dozen,	$10.50	11.25	12.00	12.50	13.00	13.50	14.00
Polished, "	$11.50	12.00					

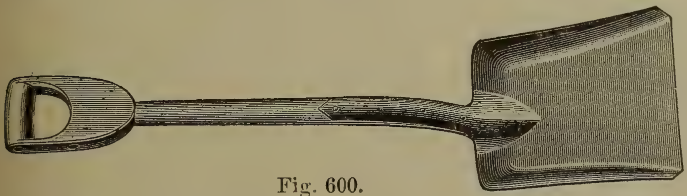


Fig. 600.

PATENT PLAIN BLACK SOLID CAST-STEEL SHOVELS.

SQUARE POINT.

No. 236,	Size 2.	O. AMES, Black,	Per dozen,	$12.75
No. 237,	" 3.	" "	"	13.50
No. 228,	" 2.	" Polished,	"	13.50
No. 228,	" 3.	" "	"	14.00
No. 314,	" 2.	R. C. BLAIR, "	"	10.75
No. 315,	" 3.	" " "	"	11.25
No. 329,	" 2.	CARTER, "	"	10.50
No. 330,	" 3.	" "	"	11.00

R. C. BLAIR and CARTER Black Shovels, 25 cents less per dozen, net.

PATENT PLAIN BACK SOLID STEEL SHOVELS.

SQUARE POINT.

No. 846,	Size 2.	A. LEE, Black,	Per dozen,	$9.25
No. 838,	" 2.	" Polished,	"	9.75
No. 866,	" 2.	W. HADWIN,	"	9.00

W. HADWIN Black Shovels, 25 cents less per dozen, net.

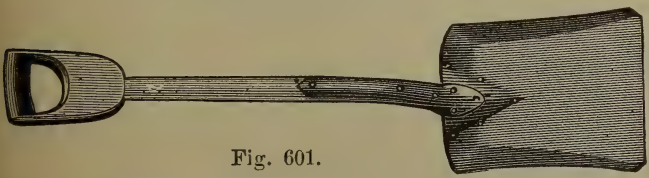


Fig. 601.

BACK STRAP CAST-STEEL SHOVELS,

SQUARE POINT.

No. 357,	Size 2.	O. AMES, Polished,	Per dozen,	$12.50
No. 423,	" 2.	A. STONE, "	"	11.00
No. 457,	" 2.	O. A. DAY, "	"	10.00
No. 491,	" 2.	SANDERSON, "	"	10.00
No. 492,	" 3.	SANDERSON, "	"	10.50
No. 548.	" 2.	C. H. REED (Steel),	"	9.25
No. 561.	" 2.	LINDSAY, "	"	9.00

Black Shovels 25 cents net less per dozen, except O. AMES, which is 50 cents list.

OLIVER AMES SONS' CORPORATION SHOVELS.

PLAIN BACK D HANDLE. ROUND POINT.

CAST-STEEL EDGE, PLATED.

The blade and shape are Swede Steel, with Crucible Cast-steel Edge.

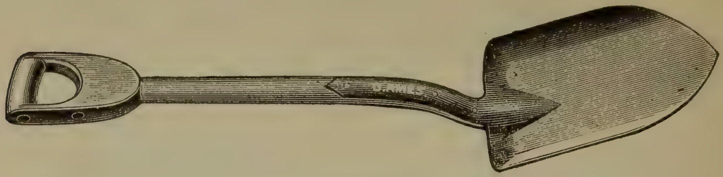


Fig 602.

No. 39, Size 2.	O. AMES, Black	Per dozen.	$12.25
No. 68, " 2.	" Polished	"	13.00
No. 128, " 2.	T. M. PORTER, Black	"	10.50
No. 153, " 2.	" Polished	"	11.25

PATENT PLAIN BACK SOLID CAST-STEEL. ROUND POINT.

No. 238, Size 2.	O. AMES Black	Per dozen.	$13.50
No. 230, " 2.	" Polished	"	14.00
No. 239, " 3.	" Black	"	14.00
No. 231, " 3.	" Polished	"	14.50
No. 316, " 2.	R. C. BLAIR, "	"	11.25
No. 331, " 2.	CARTER "	"	11.00

R. C. BLAIR and CARTER Black Shovels 25 cents less per dozen, net.

PATENT PLAIN BACK SOLID STEEL. ROUND POINT.

No. 848, Size 2.	A. LEE, Black	Per dozen.	$9.50
No. 840, " 2.	" Polished	"	10.00
No. 868, " 2.	W. HADWIN, Polished	"	9.25

BACK STRAP CAST-STEEL. ROUND POINT.

No. 365, Size 2.	O. AMES, Polished	Per dozen.	$13.00
No. 431, " 2.	A. STONE "	"	11.50
No. 465, " 2.	O. A. DAY "	"	10.50
No. 497, " 2.	SANDERSON, Polished	"	10.50
No. 498, " 3.	" "	"	11.00
No. 551, " 2.	C. H. REED (Steel), Polished	"	9.50
No. 564, " 2.	LINDSAY " "	"	9.25

Black Shovels 25 cents net less per dozen, except O. AMES, which is 50 cents list.

SCOOPS.

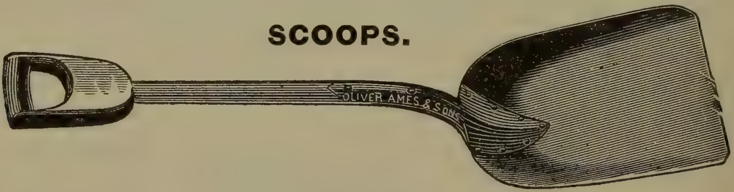


Fig. 603.

O. AMES CAST-STEEL. POLISHED.

No.	703	704	705	706	707	708	709	710	711	712	713	714	715
Size	2	3	4	5	6	7	8	9	10	11	12	13	14
Doz.	$14.50	14.75	15.25	15.50	16.00	16.50	17.00	17.75	18.50	19.00	20.00	21.00	22.00

SANDERSON'S BEST STEEL. POLISHED.

No.	730	731	732	733	734	735	736	737	738	739	740
Size	2	3	4	5	6	7	8	9	10	11	12
Per doz.	$12.75	13.00	13.25	13.00	13.50	13.75	14.00	14.50	14.50	15.00	15.50

NAYLOR'S STEEL. POLISHED.

No.	741	742	743	744	745	746	747	748	749
Size	2	3	4	5	6	7	8	9	10
Per doz.	$10.75	11.00	11.25	11.50	11.75	12.00	12.25	12.75	13.00

BACK STRAP EXTRA CAST-STEEL SHOVELS AND SPADES.

D or Long Handle. Square or Round Point.

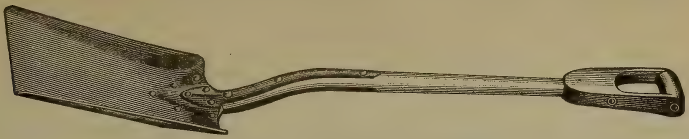


Fig. 604. Square Point Shovel.

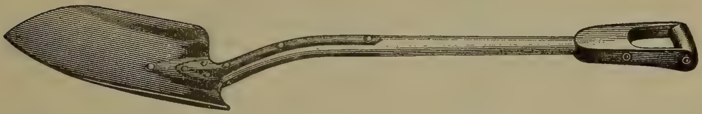


Fig. 605. Round Point Shovel.

BACK-STRAP. EXTRA HEAVY.

GRIFFITHS. **HALFMAN.** **STERLING.**

Size number	1 and 2	3	4	5	6	7	8	10	12
Black, per dozen	$16.00	16.50	17.00	17.50	18.00	18.50	19.00	20.00	21.00

BACK STRAP CAST-STEEL.

GRIFFITHS. **HALFMAN.** **YANKEE.**

Size number	2	3	4	5	6	7	8
Black, per dozen	$14.50	15.00	15.50	16.00	16.50	17.00	17.50

BALDWIN. **PFEIFER.** **TROJAN.** **ROWLAND.**

Size number	2	3	4	5	6	7	8
Black, per dozen	$14.00	14.50	15.00	15.50	16.00	16.50	17.00

LANE. **MOORE.** **ARROW.** **THOMAS.**

Size number	2	3	4	5	6	8
Black, per dozen	$13.00	13.50	14.00	14.50	15.00	16.00

STONE. **FREY.** **ROYAL.** **MOON.**

Size number	2	3	4	5	6
Black, per dozen	$12.00	12.50	13.00	13.50	14.00

Round Point Sizes, 2, 3 and 4. For Polished add 50 cents per dozen to above lists.

HUSSEY, BINNS & CO. BACK STRAP EXTRA CRUCIBLE CAST-STEEL.

Size number	2	3	4	5	6
Black, per dozen	$33.75	35.25	36.75	38.25	39.75

Round Points, Nos. 2 3 and 4.

THE PITTSBURG SOCKET OR HOLLOW BACK CRUCIBLE CAST-STEEL.

Size number	2	3	4	5	6	7	8
Black, per dozen	$34.00	35.50	37.00	38.50	40.00	41.50	43.00

Round Points, Nos. 2 and 3.

THE PITTSBURG SOCKET OR HOLLOW BACK CRUCIBLE CAST-STEEL COAL SHOVEL.

Size number	1	2	3	4	5
Black, per dozen	$27.75	28.75	29.75	30.75	32.75

Nos. 1, 2 and 3 also made with long handle.

HUSSEY, BINNS & CO. PLAIN BACK CRUCIBLE CAST-STEEL COAL SHOVEL.

Size number	1	2	3
Black, per dozen	$27.75	28.75	29.75

EXTRA HEAVY BACK STRAP, SOCKET STRAPS, SHOVELS AND SPADES.

Especially Adapted for Mining and Railroad Purposes.

DOUGLASS.

Size number	2	3	4	5	6
Black, per dozen	$16.00	$16.50	$17.00	$17.50	$18.00

For Polished add 50 cents per dozen.

BACK STRAP, CAST-STEEL SOCKET STRAP SHOVELS AND SPADES.

SAXTON.

Size number	2	3	4	5	6
Polished, per dozen	$15.00	$15.50	$16.00	$16.50	$17.00

WEBSTER.

Size number	2	3	4	5	6	7
Polished, per dozen	$13.50	$14.00	$14.50	$15.00	$15.50	$16.00

PLAIN BACK SOLID CAST-STEEL MOULDERS

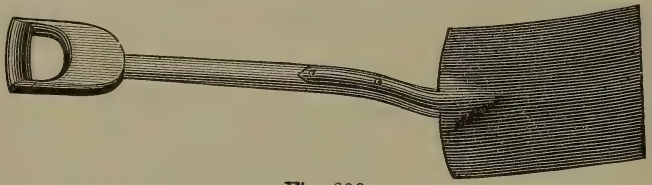


Fig. 606.

DANFORTH. SCRANTON. BARTLETT. DENIN. PFEIFER.

Size number	2	5
Polished, per dozen	$17.50	$19.00

JACKSON. NILEB. BOARDMAN. BAXTER. KING.

Size number	2	5
Polished, per dozen	$16.00	$17.50

WEBBER. ROWLAND. JOHNSON.

Size number	2
Polished, per dozen	$14.50

Patent Dirigo Handles put in all above Moulders' Shovels when so ordered.

SOLID CAST-STEEL SOCKET STRAP TAMPING SHOVEL.

SIZE NO. 2, BLACK.

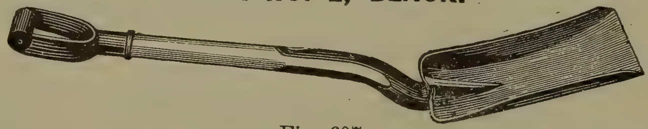


Fig. 607.

MONONGAHELA per dozen	$17.00	PITTSBURG, per dozen	$19.00
C. H. BARTLETT, " "	17.00	SAXTON, " "	17.50
BOARDMAN, " "	15.50	WEBSTER, " "	14.00
GRIFFITHS, " "	20.50	DOUGLASS, " "	19.00
GORDON, " "	19.00	WILSON, " "	15.50

SOLID CAST-STEEL PLAIN STRAP TAMPING SHOVEL.

SIZE NO. 2, BLACK.

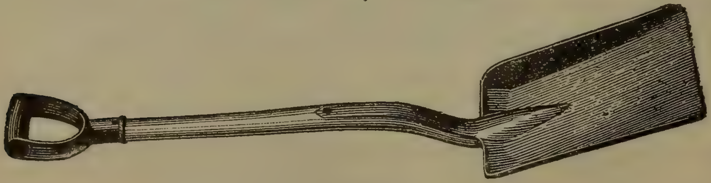


Fig. 608.

ROWLAND, per dozen	$14.00	SCRANTON, per dozen	$19.00
HUSSEY, BINN & CO., per dozen	20.50	NILEB " "	17.50

CLEVELAND PATTERN SHOVELS AND SPADES.

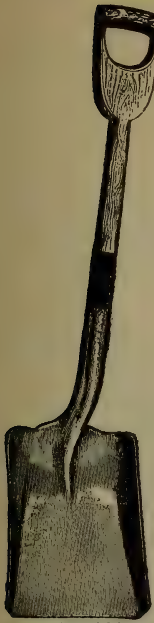


Fig. 609.
Square Point Shovel.

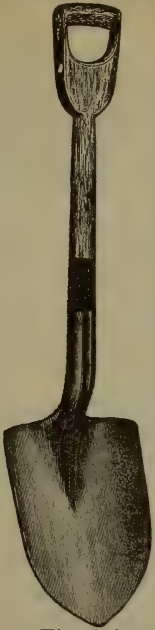


Fig. 610.
Round Point Shovel.

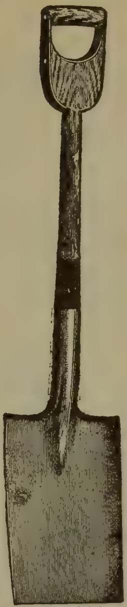


Fig. 611.
Spade.

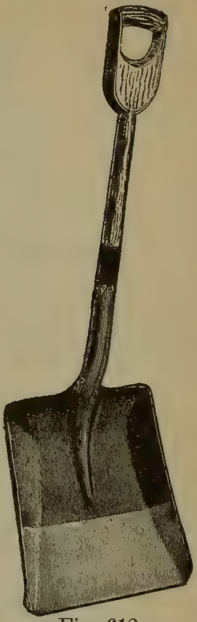


Fig. 612.
Coal Shovel.

EXTRA CAST-STEEL HOLLOW BACK.

D or Long Handle, Square or Round Point.

GEORGE GRIFFITHS. PFEIFER. LACKAWANNA. HOLMES.

Size number	2	3	4	5	6	8
Black, per dozen	$16.50	17.00	17.50	18.00	18.50	19.50

BEST CAST-STEEL HOLLOW BACK.

D or Long Handle, Square or Round Point.

BAIRD. PENN. ATLAS. GORDON.

Size number	2	3	4	5	6	8
Black, per dozen	$15.00	15.50	16.00	16.50	17.00	18.00

CAST-STEEL HOLLOW BACK.

D or Long Handle, Square or Round Point.

PACKER. WYOMING. WILSON.

Size number	2	3	4	5	6	8
Black, per dozen	$13.50	14.00	14.50	15.00	15.50	16.50

For Polished add 50 cents per dozen to all the above.

SOLID STEEL HOLLOW BACK.

D or Long Handle, Square or Round Point.

SELLERS. BOSS. DIAMOND. METEOR.

Size number	2	3	4	5	6	8
Black, per dozen	$12.50	13.00	13.50	14.00	14.50	15.50

BEST CAST-STEEL HOLLOW BACK COAL SHOVELS.

Western Pattern, D or Long Handle.

BAIRD. PENN.

Size number	1	2	3
Black, per dozen	$17.00	17.50	18.00

For Half Polished add 50 cents per dozen.

SOLID STEEL PATTERN, HOLLOW BACK COAL SHOVELS.

Western Pattern, D or Long Handle.

SELLERS. BOSS.

Size number	1	2	3
Black, per dozen	$14.50	15.00	15.50

For Half Polished add 50 cents per dozen.

HOLLOW-BACK COAL AND COKE SHOVELS.

WESTERN PATTERN.

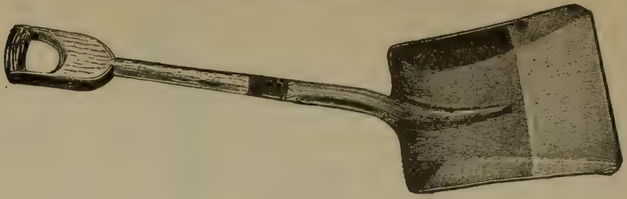


Fig. 613.

CRUCIBLE CAST-STEEL SOCKET COAL SHOVELS.

Black. D or Long Handle.

LACKAWANNA. G. GRIFFITHS. HOLMES.

Size,	1	2	3	5	6
Per dozen,	$18.50	19.00	19.50	20.50	18.50

EXTRA CAST-STEEL SOCKET COAL SHOVELS.

Black. D or Long Handle.

ATLAS. BAIRD. GORDON.

Size,	1	2	3	5	6
Per dozen,	$17.00	17.50	18.00	19.00	17.00

SOLID CAST-STEEL SOCKET COAL SHOVELS.

Black. D or Long Handle.

WYOMING. PACKER. WILSON.

Size,	1	2	3	5	6
Per dozen,	$15.50	16.00	16.50	17.50	15.50

SOLID STEEL SOCKET COAL SHOVELS.

Black. D or Long Handle.

DIAMOND. SELLERS. CLEVELAND or METEOR.

Size,	1	2	3	5	6
Per dozen,	$14.50	15.00	15.50	16.50	14.50

Nos. 1, 2 and 3 of all the above are Bituminous Coal Shovels.
No. 5 of all the above are Coke Shovels.
No. 6 of all the above are Anthracite Coal Shovels.

Sizes and Dimensions of Blades.

No. 1.	Bituminous,	Width, 13¾ inches.	Length, 14¼ inches.
No. 2.	Bituminous,	" 14¼ "	" 14¾ "
No. 3.	Bituminous,	" 14¾ "	" 15⅜ "
No. 5.	Coke,	" 15 "	" 17 "
No. 6.	Anthracite,	" 12⅞ "	" 14 "

No. 6 Anthracite is Round Point.
For Half Polished add 50 cents to above lists.

Dimensions of Blades, Hollow Back, D Handle Shovels, Square Point.

Size No.	2	3	4	5	6	7	8
Width, Inches,	9¾	10⅛	10¾	11⅜	11¾	12⅛	12½
Length, Inches,	11⅞	12⅜	12⅞	13½	14	14½	15

Dimensions of Blades, Hollow Back, D Handle, Round Point.

Size No.	2	3
Width, Inches,	9½	9⅝
Length,	13	13⅜

Dimensions of Blades, Hollow Back, Long Handle, Round Point.

Size No.	2	3
Width, Inches,	9¾	9⅞
Length, Inches,	12	12½

Dimensions of Hollow Back Coal and Locomotive Scoops, Eastern Pattern.

Size No.	2	3	4	5	6	7	8
Width, Inches,	10⅞	11⅛	11½	12¾	13	13¼	13¾
Length, Inches,	14½	15	15½	16¼	16¾	17¼	17¾

DIMENSIONS OF SOLID STEEL AND BACK STRAP D HANDLE SHOVELS, SQUARE POINT.

Size number	2	3	4	5	6	7
Width, inches,	10	10½	11	11½	12	12½
Length, "	12	12⅝	13¼	13⅞	14½	15

D HANDLE, ROUND POINT.

Size number,	2	3
Dimensions, inches,	9¾x12¼	10⅜x12½

LONG HANDLE, ROUND POINT.

Size number,	2	3
Dimensions, inches,	9¼x12	9⅝x12½

DIMENSIONS SOLID STEEL AND BACK STRAP SCOOPS, EASTERN PATTERN.

Size number,	2	3	4	5	6	7	8	9	10	12
Width, inches,	11¼	11½	11⅞	12¼	12½	13⅜	13¾	14¾	15	15¾
Length, "	15	15½	16	16¼	16¾	17	17½	18	18½	19¾

PATENT PLAIN BACK SOLID CAST-STEEL SPADES.

BRICK SPADE.

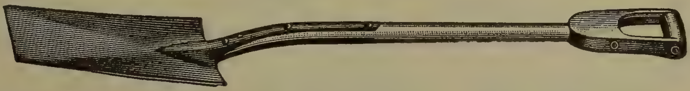


Fig. 614.

Size No. 2.	Black D Handle Brick Spade, Extra,	Per dozen, $15.00
"	" " "	" 13.50

DRAIN SPADES.

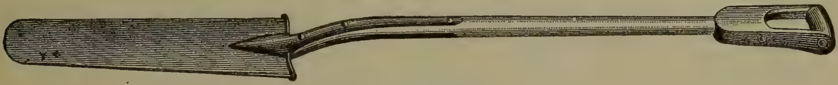


Fig. 615.

D Handle Concave Drain Spade, Polished, Extra, 14 inches,	Per dozen, $19.50
" " " 14 "	" 17.50

DITCHING AND POST SPADES.

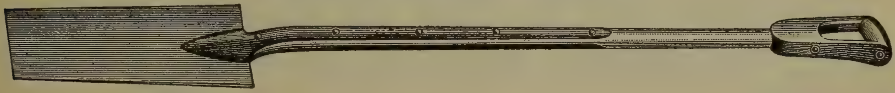


Fig. 616.

D Handle Concave Ditching and Post Spade, black, 14 inches,	Per dozen, $19.50

FIRE SHOVELS, SHORT HANDLE.

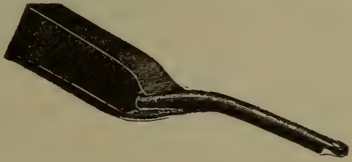


Fig. 617.

MEDIUM.

No. 2.	Japanned, size 4½x7x15 inches, per dozen,	$1.00
No. 2.	Galvanized, " " "	1.25

HEAVY.

No. 5.	Japanned, size 4⅝x8x16 inches, per dozen,	$1.25
No. 5.	Galvanized, " " "	1.75

FIRE SHOVELS, LONG HANDLE.

MEDIUM.

No. 3.	Japanned, size 5x8x23 inches, per dozen,	$1.50
No. 3.	Galvanized, " " "	2.00

HEAVY.

No. 7.	Japanned, size 5x8x23 inches, per dozen,	$2.10
No. 7.	Galvanized, " " "	3.00

CLEVELAND PATTERN D OR LONG HANDLE SCOOPS.
EASTERN PATTERN.

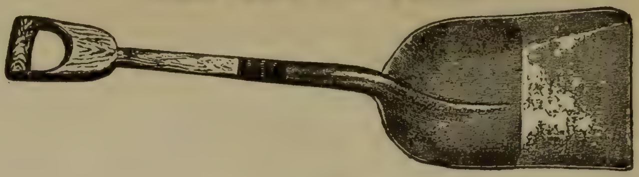


Fig. 618.

EXTRA CAST-STEEL HOLLOW BACK SCOOPS.

GEORGE GRIFFITHS. PFEIFER. LACKAWANNA. HOLMES.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$18.00	18.50	19.00	19.50	20.00	20.50	21.00

BEST CAST-STEEL HOLLOW BACK SCOOPS.

BAIRD. PENN. ATLAS. GORDON.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$16.50	17.00	17.50	18.00	18.50	19.00	19.50

CAST-STEEL HOLLOW BACK SCOOPS.

PACKER. WYOMING. WILSON.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$15.00	15.50	16.00	16.50	17.00	17.50	18.00

SOLID STEEL HOLLOW BACK SCOOPS.

SELLERS. BOSS. DIAMOND. METEOR.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$14.00	14.50	15.00	15.50	16.00	16.50	17.00

For Half Polished add 20 cents, Full Polished add 50 cents per dozen to above lists.
For Western Pattern Cleveland Pattern Scoops add $1.00 per dozen to above lists.

BACK-STRAP PHILADELPHIA OR EASTERN PATTERN SCOOPS, EXTRA CAST-STEEL.

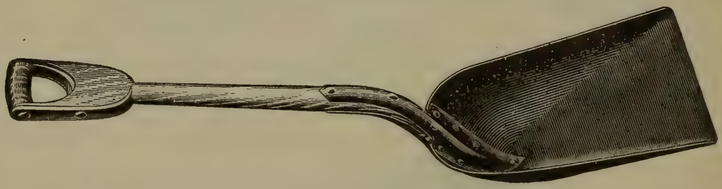


Fig. 619.

HALFMAN. C. H. BARTLETT. PETTEBONE-EXTRA.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$18.50	19.00	19.50	20.00	20.50	21.00	21.50

BACK-STRAP CAST-STEEL SCOOPS.

LANE. MOORE. BAXTER. TROJAN.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$15.50	16.00	16.50	17.00	17.50	18.00	18.50

BACK-STRAP STEEL SCOOPS.

STONE. FREY. ROYAL. ROWLAND. ARROW.

Size number, ...	2	3	4	5	6	7	8
Black, per dozen	$14.50	15.00	15.50	16.00	16.50	17.00	17.50

For Half Polished add 20 cents, Full Polished add 50 cents per dozen to above lists.

SAWDUST SCOOPS, BLACK.

D or Long Handle Cast-steel, ...	Per dozen $22.50

TELEGRAPH SHOVELS, SOLID CAST-STEEL, PLAIN BACKS.

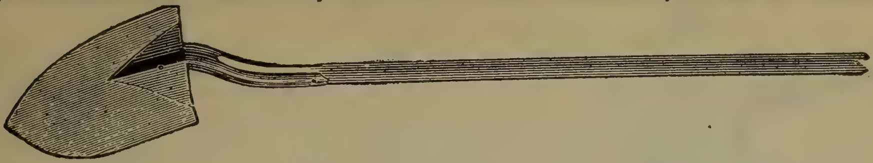


Fig. 620.

G. GRIFFITHS.

Length of Handles, feet	6	7	8
Per doz. Black	$20.50	22.50	24.50

BARTLETT. DANFORTH. WYOMING.

Length of Handles, feet	5	6	7	8
Per dozen, Black	$19.00	19.00	21.00	23.00

BOARDMAN. JACKSON.

Length of Handles, feet	5	6	7	8
Per dozen, Black	$17.50	17.50	19.50	21.50

Add for Long Straps $4.00 per dozen additional to list.

TELEGRAPH SPOONS, SOLID CAST-STEEL, PLAIN BACK.

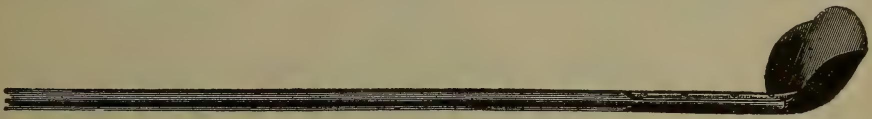


Fig. 621.

GRIFFITHS. BARTLETT. WYOMING.

Length of Handles, feet	6	7	
Per dozen, Black	$22.50	22.50	24.50

CAST-STEEL, BACK STRAP, MALLEABLE SHANK.

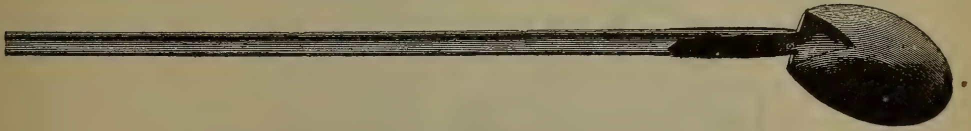


Fig. 622.

GRIFFITHS. ROWLAND. WYOMING.

Length of Handles, feet	6	7	
Per dozen, Black	$20.50	20.50	22.50

Add for Long Straps $4.00 per dozen additional to lists.

SOLID STEEL SOCKET SNOW SHOVEL.

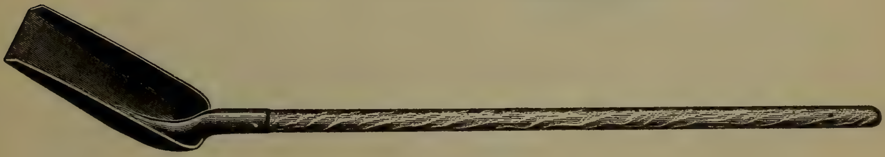


Fig. 623.

This Shovel is made from one piece of Steel, particularly strong Shovel, correct in shape and of comparatively light weight, and is particularly adapted to railways. Finished in Black.

SIZE.

Blades 10½ inches wide by 14 inches long. Total length of Shovel 5 feet. Price $7.00 per dozen
D Handle Snow Shovels, same size blade . . . . 10.00 per dozen

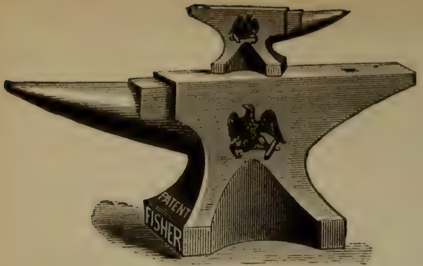


Fig. 624.

100 lbs. to 800 lbs., 9 cents per lb.

SMALLER ANVILS—"MINIMS."

WEIGHING ABOUT.

No. 000.	1	2	3	4
½ lb.	8 lbs.	20 lbs.	30 lbs.	40 lbs.
PRICE.				
$1.00	3.50	4.00	4.30	4.50

WEIGHING ABOUT.

No. 5	6	7	8	9
50 lbs.	60 lbs.	70 lbs.	80 lbs.	90 lbs.
PRICE.				
$5.00	5.50	6.00	7.00	8.00

"EAGLE ANVIL."
STANDARD DIMENSIONS.

Weight.	Face.			Horn.
	Length.	Width.	Cutter-Hole, Square.	Length.
Pounds.	Inches.	Inches.	Inches.	Inches.
100	12	3½	¾	8½
110	12¾	3½	¾	8½
120	12¾	3½	¾	8½
130	13½	3¾	¾	8½
140	14	4	⅞	8½
150	14½	4	⅞	10
150	15	4	⅞	10
160	15	4¼	1	10
170	15	4¼	1	10
180	15½	4¼	1	10
200	16½	4¾	1⅛	11½
225	16½	4¾	1⅛	11½
250	17¼	5¼	1¼	11½
275	17¾	5¼	1¼	11½
300	19	5¼	1¼	11½
350	20	6	1⅜	13
400	21	6	1⅜	13
500	23	6½	1½	14½
600	23	6½	1½	14½

PETER WRIGHT ANVILS.

Weights from 84 to 500 lbs.	Base,		cts. per lb.
" " 70 to 84 " advance, ...	"	1	"
" " 60 to 70 " "	"	1½	"
" " 50 to 60 " "	"	2	"
" " under 50 " "	"	3	"

VULCAN BELLOWS.

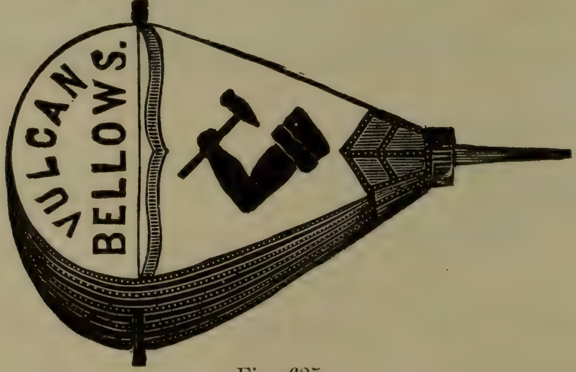

VULCAN BELLOWS.

Fig. 625.

BLACKSMITHS' EXTRA.

Size, Inches.	24	26	28	30	32	34	36	38	40	42	44	46	48	50
Price, Each.	$12.00	13.00	14.00	16.00	18.00	20.00	22.00	24.00	28.00	34.00	38.00	44.00	50.00	60.00

DOUBLE EXTRA.

Size, inches . . .	34	36	38	40	42	44	46	48	50
Price, each . . .	$22.00	24.00	28.00	32.00	38.00	44.00	50.00	60.00	70.00

FOUNDRY OR MOULDERS.

Size, inches	9	10	11	12	13	14	16
Price, per dozen . . .	$15.00	17.00	20.00	24.00	26.00	28.00	33.00

HAND BELLOWS.

Size, inches	6	7	8	9	10	12
Price, per dozen . . .	$6.00	7.00	8.00	9.00	10.00	12.00

BLACKSMITHS' MANDRELS.

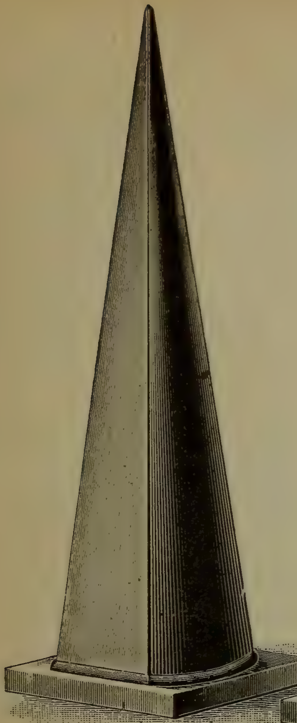


Fig. 626.

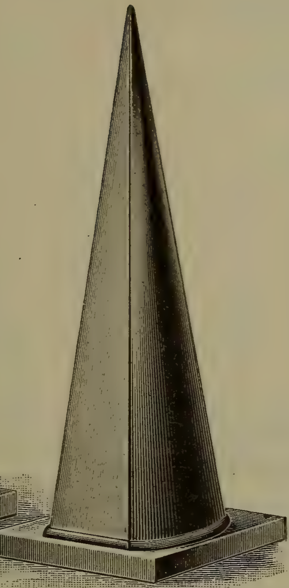


Fig. 627.

DESCRIPTION AND PRICES.

No.	Size of Base.	Height.	Price.
1	10 in.	36 in.	$6.00
2	10 "	46 "	7.75
3	12 "	48 "	11.00
4	16 "	62 "	16.00

We make these Mandrels in sizes as shown. They are flattened on one side to permit work to be grasped firmly with tongs.

They have square bases, which keep them from being so easily tipped over. When ordering, mention the number of Mandrel wanted.

SWAGE BLOCKS. FOR MACHINE AND BLACKSMITHS' SHOPS.

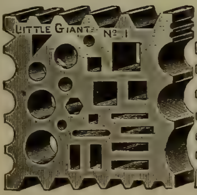


Fig. 628

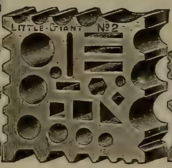


Fig. 629

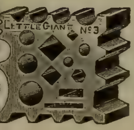


Fig. 630

PRICE LIST AND SIZES.

		Not Planed.	Planed Both Sides
Fig. 628, Swage Block,	18 x 18 x 4	$11.00	$13.00
" 629, " "	15 x 15 x 4	7.00	8.50
" 630, " "	11 x 11 x 4	4.00	5.00

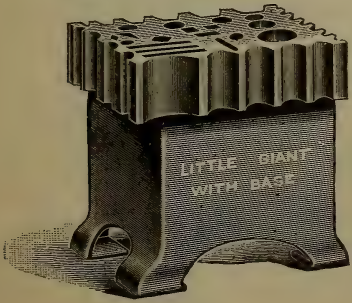


Fig 631.

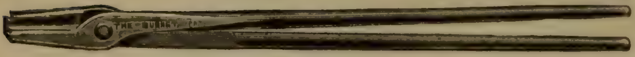
We also furnish Swage Blocks with base as represented. Swage Block and base are cast in one piece. When edges are used base can be tipped so that edge needed will come on upper side.

PRICE LIST AND SIZES.

No.	Not Planed.	Planed.
11, 18 x 18 x 4 x 16 high,	$15.50	$17.50
12, 15 x 15 x 4 x 16 "	12.00	13.50
13, 11 x 11 x 4 x 16 "	7.25	8.25

Unless otherwise ordered, Swage Blocks will be sent *not planed.*

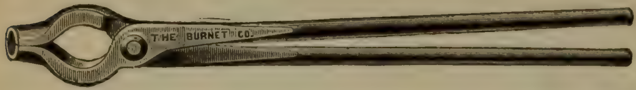
BLACKSMITHS' TONGS.


THE BURNET CO.

STRAIGHT LIP.

Fig. 632.

VERONA, . Per lb., $0.40


THE BURNET CO.

CURVED LIP, FLUTED JAW.

Fig. 633.

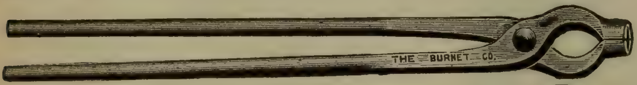
VERONA, . Per lb., $0.40

STRAIGHT LIP.—Fig. 632.

Nos.	Length.	Doz. Price.	Nos.	Length.	Doz. Price.	Nos.	Length.	Doz. Price.
1,330	12 in.	$5.75	1,334	20 in.	$9.75	1,337	26 in.	$14.00
1,331	14 "	6.75	1,335	22 "	11.00	1,338	28 "	15.75
1,332	16 "	7.75	1,336	24 "	12.50	1,339	30 "	17.50
1,333	18 "	8.75						

CURVED LIP, FLUTED JAW.—Fig. 633.

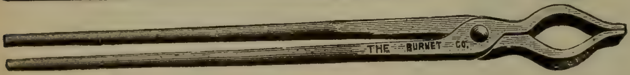
Nos.	Length.	Doz. Price.	Nos.	Length.	Doz. Price.	Nos.	Length.	Doz. Price.
1,340	12 in.	$6.50	1,344	20 in.	$10.50	1,347	26 in.	$15.00
1,341	14 "	7.50	1,345	22 "	12.00	1,348	28 "	17.00
1,342	16 "	8.50	1,346	24 "	13.50	1,349	30 "	19.00
1,343	18 "	9.50						


THE BURNET CO.

GAD.

Fig. 634.

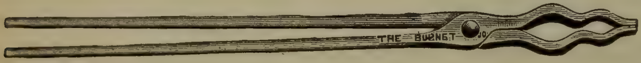
Per lb., . . $0.40


THE BURNET CO.

SINGLE PICK UP.

Fig. 635.

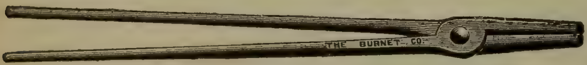
Per lb., . . $0.40


THE BURNET CO.

DOUBLE PICK UP.

Fig. 636.

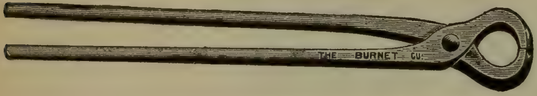
Per lb., . . $0.40


THE BURNET CO.

ROUND JAW OR BAND.

Fig. 637.

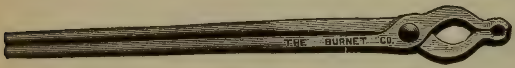
Per lb., . . $0.40


THE BURNET CO.

BOLT.

Fig. 638.

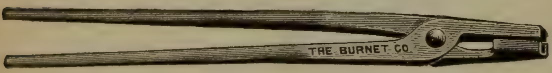
Per lb., . . $0.40


THE BURNET CO.

RIVET.

Fig. 639.

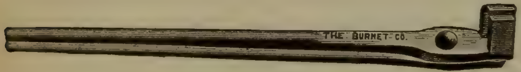
Per lb., . . $0.60


THE BURNET CO.

LATHE TOOL.

Fig. 640.

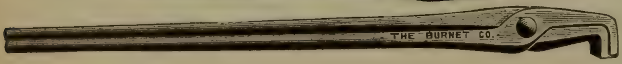
Per lb., . . $0.60


THE BURNET CO.

PICK.

Fig. 641.

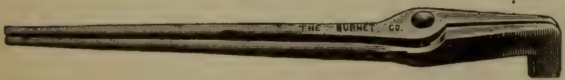
Per lb., . . $0.60


THE BURNET CO.

ANGLE JAW.

Fig. 642.

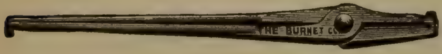
Per lb., . . $0.60


THE BURNET CO.

BAND OR CLEVIS.

Fig. 643.

Per lb., . . $0.60


THE BURNET CO.

CLIP.

Fig. 644.

Per lb., . . $1.20

BLACKSMITHS' TOOLS.

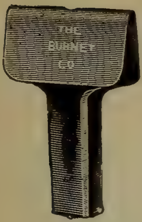


Fig. 645.

BOTTOM FULLER.

¼ to 3 in.

Per lb., $0.50.

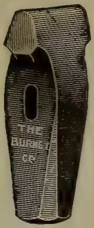


Fig. 646.

TOP FULLER.

¼ to 3 in.

Per lb., $0.50.

No. 38, Verona, per lb., $0.30.

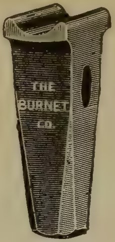


Fig. 647.

TOP SWAGE

¼ to 4½ in.

Per lb., $0.50.

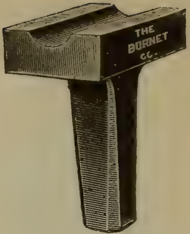


Fig. 648.

OTTOM SWAGE.

¼ to 4½ in.

Per lb., $0.50.

No. 39, Verona, per lb., $0.30.

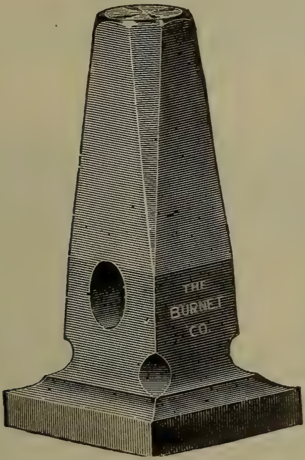


Fig. 649.

SQUARE FLATTER.

1 to 4½ in. Per lb., $0.50.

No. 37, Verona . per lb., $0.30.

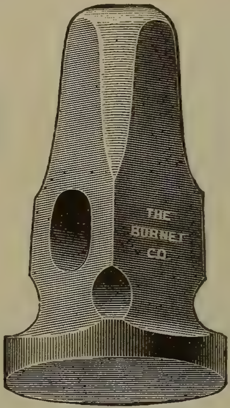


Fig. 650.

ROUND FLATTER.

1 to 4½ in.

Per lb., $0.50.

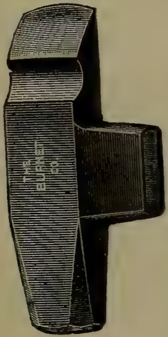


Fig. 651.

ADZE-EYE CREASER.

Doz. price, $10.

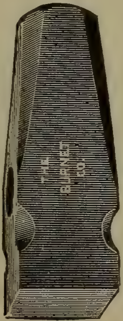


Fig. 652.

SET HAMMER.

1 to 2½ in.

Per lb., $0.50.

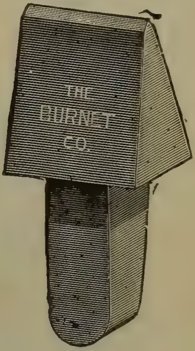


Fig. 653.

HARDIE.

Shanks, ½ to 1¼ in.

Per lb., $0.50.

No. 61, Verona . $0.30

ROCK DRILL SHARPENING TOOLS.

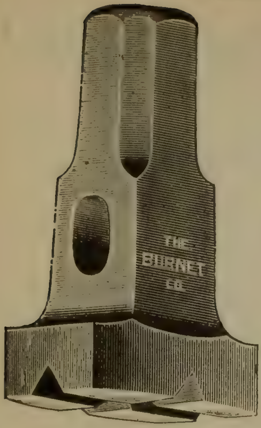


Fig. 654.

DOLLY.

Fig. 654.

Weight, 4 lb. 12 oz.

Lb. price, $0.80.

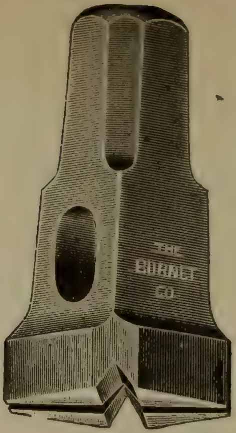


Fig. 655.

DOLLY.

Fig. 655.

Weight, 6 lb.

Lb. price, $0.80.

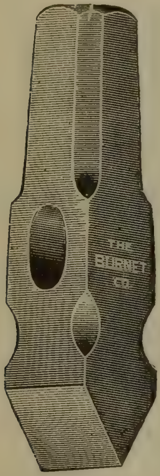


Fig. 656.

TOP SPREADER.

3 lb. 8 oz., $0.80.

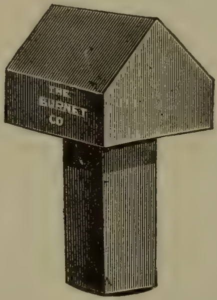


Fig. 657.

BOTTOM SPREADER.

Weight, 2 lb. 8 oz.

Lb. price, $0.80.

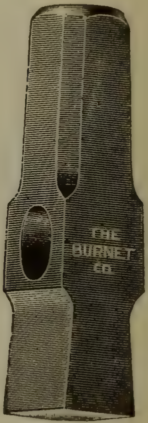


Fig. 658.

SET HAMMER.

Weight, 3 lb. 8 oz.

Lb. price, $0.80.

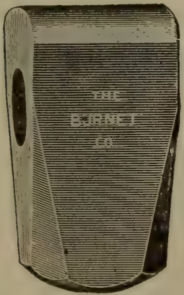


Fig. 659.

CAT HEAD HAMMER

For sharpening drills.

Per lb., $0.40.

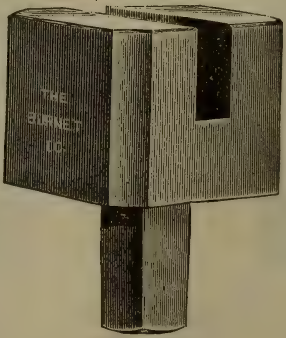


Fig. 660.

SOW.

Weight, 8 lb. 12 oz.

Lb. price, $0.80.

BLACKSMITHS' TOOLS.

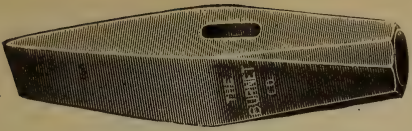


FIG. 661.

COLD CHISEL.

1 to 3 lb.,	per lb.,	$0.50
No. 40 Verona,	"	.25

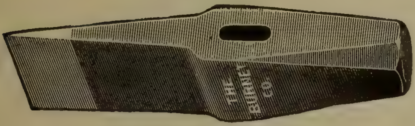


FIG. 662.

HOT CHISEL.

1 to 3 lb.,	per lb.,	$0.50
No. 41 Verona,	"	.25

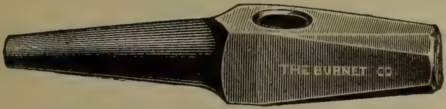

THE BURNET CO.

FIG. 663.

ROUND PUNCHES.

¼ to 1 in.,	per lb.,	$0.55

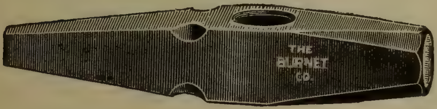


FIG. 664.

SQUARE PUNCHES.

¼ to 1 in.,	per lb.,	$0.55

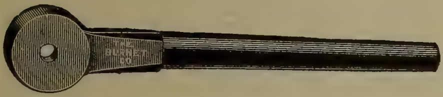


FIG. 665.

HEADING TOOLS.

Assorted.	**Lb. Price.**
¼ to 1¼ in.,	$0.50

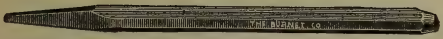

THE BURNET CO.

FIG. 666.

PRITCHELS (Farriers').

Per lb.	$0.60

BLACKSMITHS' STAKES.

No.	Size of Face. (Square.)	Price Each
1	2 in.	$1.75
2	3 "	2.50
3	4 "	3.75
4	4½ "	4.50
5	5 in.	$5.50
6	5½ "	6.50
7	6 "	8.00

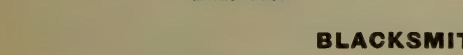

THE BURNET CO.

FIG. 667.

CAPE CHISEL.

Per lb.,	$0.60

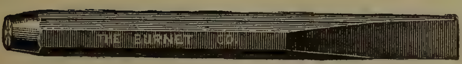

THE BURNET CO.

FIG. 668.

HAND CHIPPING.

Per lb.,	$0.50

BUFFALO PORTABLE FORGES.

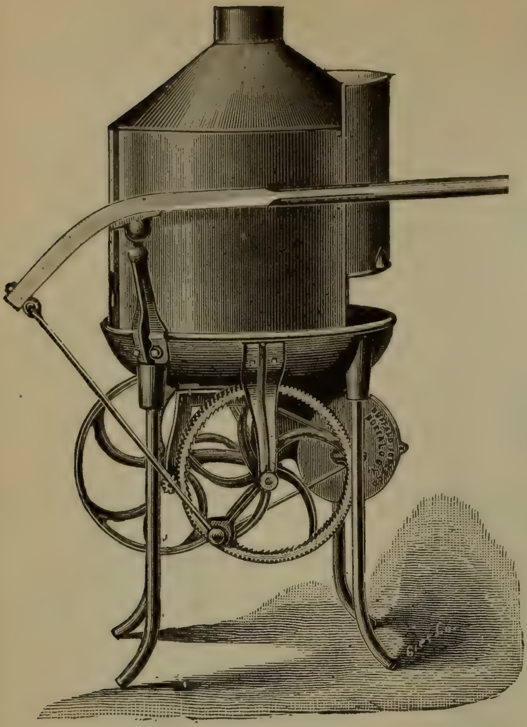


Fig. 669.

CLOSED HOOD FORGE.

Fig. 669 Forge.—With closed hood; height, 29 in.; fan, 10 in.; hearth, 21 x 27 in.; weight, 150 lbs.

Price, $42.00.

The closed hoods are strongly made of steel, completely enclosing the fireplace, and are fitted with a large sliding door in front and small one in rear, for manipulating fire, etc. Thus equipped, the escape of sparks, fumes and smoke is prevented, and adapts them for use in annealing and refining metals, and in planing mills, furniture factories, saw mills, oil refineries, sugar works, etc.

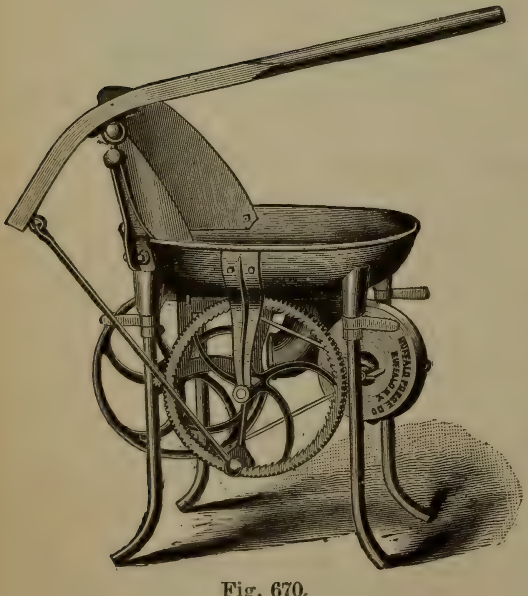


Fig. 670.

BOILER MAKERS' FORGE.

Fig. 670 Forge. — With dash; height, 29 in.; fan, 10 in.; hearth, 21 x 27 in.; weight, 140 lbs.

Price, $36.00.

No boiler shop is completely equipped without this forge, which is especially intended for the use of iron bridge and ship builders, railroad contractors and general out-door work.

They have received the endorsement of some of the most prominent users, as being far superior to anything ever produced.

TOOL MAKERS' FORGE.

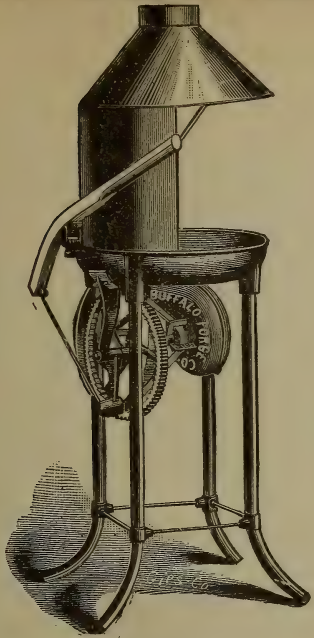


Fig. 671.

Fig. 671.—Half-open hood; height, 33 in.; size of hearth, 18 in. diameter; weight, 75 lbs.

Price, $27.00.

Fig. 671.—With closed hood; height, 33 in.; hearth, 18 in. diameter; weight, 80 lbs.

Price, $30.00.

For use in heating and tempering small tools.

STATIONARY BLAST FORGE.

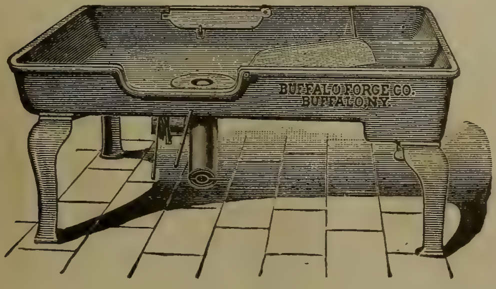

BUFFALO FORGE CO.
BUFFALO, N.Y.

Fig. 673.

DIMENSIONS IN INCHES:

Fire Pan, 46½x47; Coal Box, length, 23½; width, 12; depth, 10; Water Tank, length, 27¾; width, 12; depth, 10; Height of Forge, 26½; weight, 722 lbs.

Price, $70.00.

Fig. 673.—Stationary Blast Forge is designed for the heaviest kind of blacksmith and shipsmith work. The dimensions given afford an idea of its adaptability to the heavy class of work for which it was designed, and which has made it a popular pattern for railroad shop, ship smithing, etc.

RAILROAD AND BRIDGE BUILDERS' FORGE.

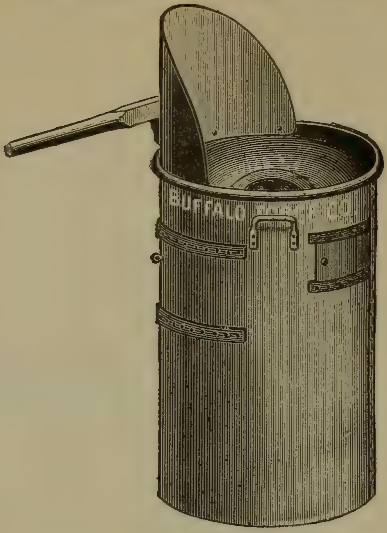


Fig. 672.

Fig. 672.—Size of hearth, 18 in. diameter; height, 32 in.; weight, 110 lbs.

Price, $32.00.

This forge is designed especially for railroad track and bridge work, structural iron and ship builders, pipe lines, tank builders, etc. It is practically impossible for breakages to occur, as all the machinery is protected by a steel drum or barrel, and it will withstand any amount of hard usage without injury.

RIVETERS' PORTABLE FORGE.

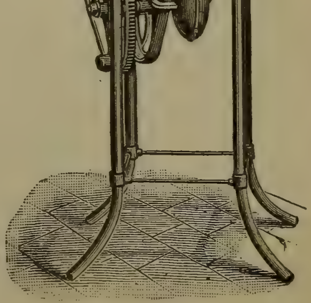


Fig. 674.

Fig. 674—With dash; height, 33 in.; size of hearth, 18 in. diameter; weight, 70 lbs.

Price, $24.00.

BUFFALO BLACKSMITHS' FORGE.

WITH STEEL HOOD.

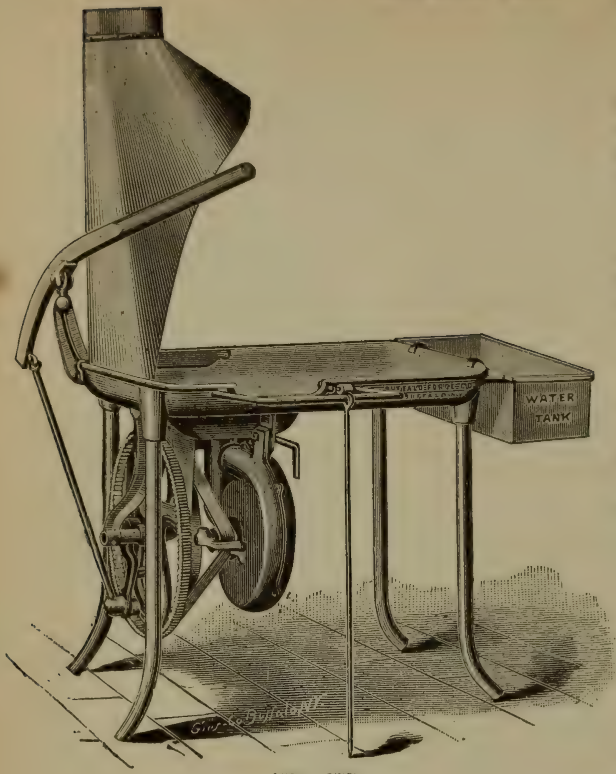

WATER TANK
BUFFALO FORGE CO BUFFALO, N.Y.

Fig. 675.

FIG. 675, FORGE COMPLETE.

With Hand Lever.

Height, 30 in.; size of hearth. 28 x 40 in.; fan, 14 in. diameter; weight, 250 lbs.; with water tank, 300 lbs.

Price	$50.00
" with water tank	54.00

This Forge is guaranteed to produce a welding heat on 3-inch iron in 5 minutes, and on 4 inch iron in 10 minutes. Sold only on guaranteed merit.

FIG. 676, POWER FORGE.

Height, 30 in.; size of hearth, 28 x 40 in.; fan, 14 in. diameter; weight, 250 lbs.; with water tank, 300 lbs.

PRICES.

Fig. 676.—Without water tank . .	$54.00
" " With water tank. . . .	58.00
" " With hand-power attachments	58.00
" " With hand-power attachments and water tank	62 00

Built complete, with tight and loose pulleys; also, cut-off for the blast, by which the fire can be regulated to any degree.

The hand attachments are a very convenient feature for use in case of breakdowns or when engine is stopped.

MACHINISTS' PORTABLE FORGE.

Fig. 677. Forge.—With half-open hood; height, 29 in.; fan, 10 in.; hearth, 21 x 27 in.; weight, 145 lbs.

Price $40.00

These forges are guaranteed to produce a welding heat on 2½ to 3-inch iron in from 5 to 10 minutes, and will do heavier work if required.

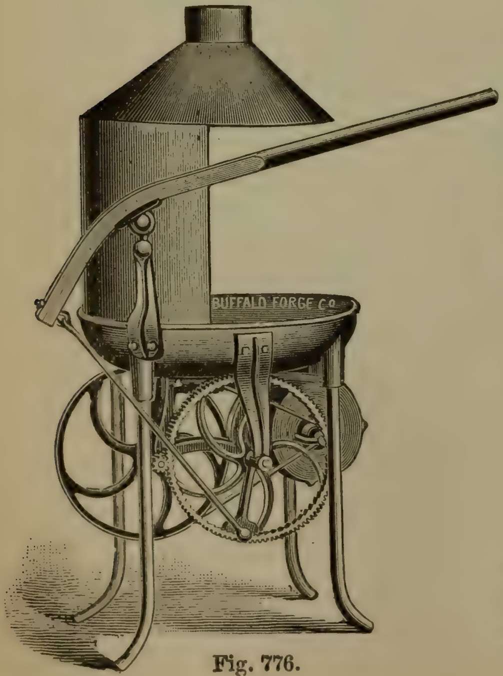

BUFFALO FORGE Co.

Fig. 776.

FIG. 678, POWER FORGE.

Height, 29 in.; fan, 10 in. diameter; hearth, 21 x 27 in.; weight, 140 lbs.

PRICES.

Fig. 678.—Without water tank . .	$45.00
" " With water tank . . .	49.00
" " With hand-power attachments	48.00
" " With water tank and hand-power attachments .	52.00

For general work in machine shops, mills, or wherever power is available, this forge is especially adapted. The hand-power attachments will be found particularly serviceable in all cases of breakdowns or repairs after hours, when it is not desirable to run the engine to drive the forge fan.

BLACKSMITHS' HORIZONTAL HAND BLOWER.

Fig. 678.

Price, with tuyere complete, $32.00
Price, without tuyere . . 30.00

Fig. 679.

Price, with tuyere complete, $36.00
Price, without tuyere . . 34.00

TUYERES. Price, each . $3.50

BLOWER. Fig. 678.—Size of fan, 14 in.; height, 35 in.; length, 32 in.; weight, 130 lbs.; with tuyere, 150 lbs.

BLOWER. Fig. 679.—Size of fan, 17 in.; height, 35 in; length, 35 in.; weight, 200 lbs.; with tuyere, 225 lbs.

This Blower is designed for extra heavy work, as boilermakers' flange fires, heavy ship-smithing, etc.

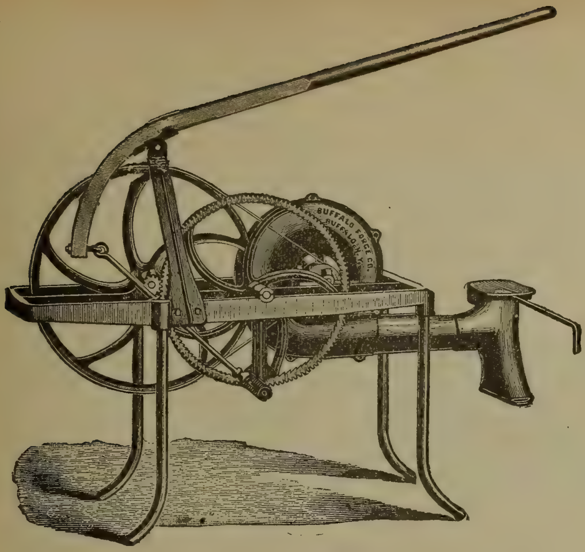

BUFFALO FORGE CO.
BUFFALO, N.Y.

Fig. 678.

BLACKSMITHS' CRANK HAND BLOWER.

Fig. 680.

Size of fan, 14 in.; height, 47 in.; weight, 105 lbs.; with tuyere, 125 lbs.

Price, with tuyere, $20.00. Price, without tuyere, $18.00.

Tuyeres, price, each, $3.50.

Blower, Fig. 680, is designed to meet requirements where, for convenience, a Crank Blower is desirable. In its construction we have embodied our Patent Rachet Crank, which does not continue to revolve when released by the operator, but falls in the position indicated in the cut, which is most convenient in starting the Blower. At 30 turns of crank per minute, this blower will blow strong enough to heat 3 to 4-inch iron in from 5 to 10 minutes.

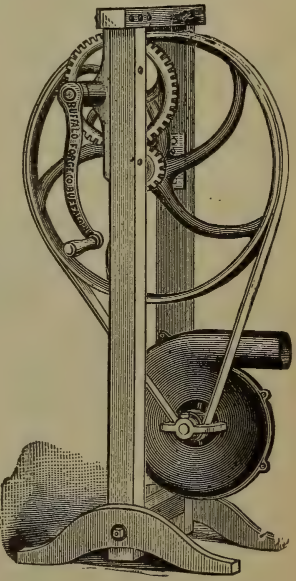


Fig. 680.—Made only right hand.

BLACKSMITHS' UPRIGHT HAND BLOWER.

Fig. 681.

Size of fan, 14 in. diameter; height, 47 in.; weight, 115 lbs.; with tuyere, 130 lbs.

Price, with tuyere complete, . . $25.00
Price, without tuyere, ... 23.00
Tuyeres, price, each, ... 3.50

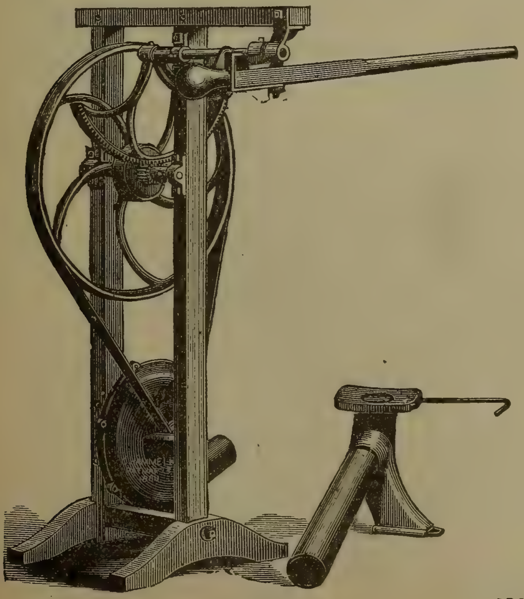


Fig. 681.

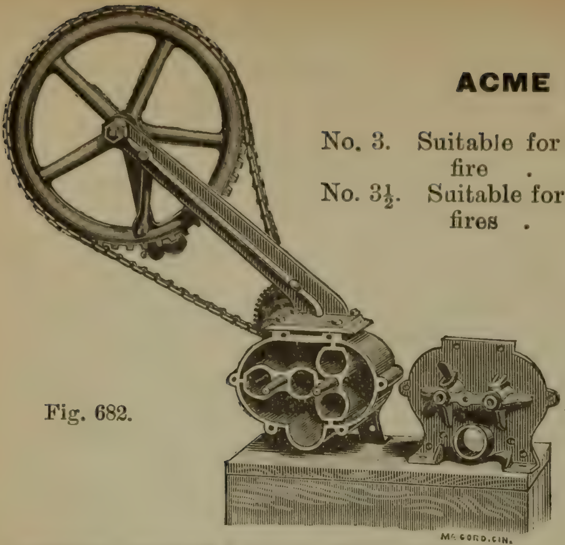


Fig. 682.

ACME HAND BLOWER

No. 3.	Suitable for one ordinary blacksmith's fire	$17.50
No. 3½.	Suitable for two ordinary blacksmith's fires	$39.50

The above are made either for right or left hand fires.

Allow 60 cubic feet per minute for each ordinary blacksmith's fire.

No. 3 is guaranteed to give blast equal to a 60-inch bellows.

ACME PORTABLE FORGE.

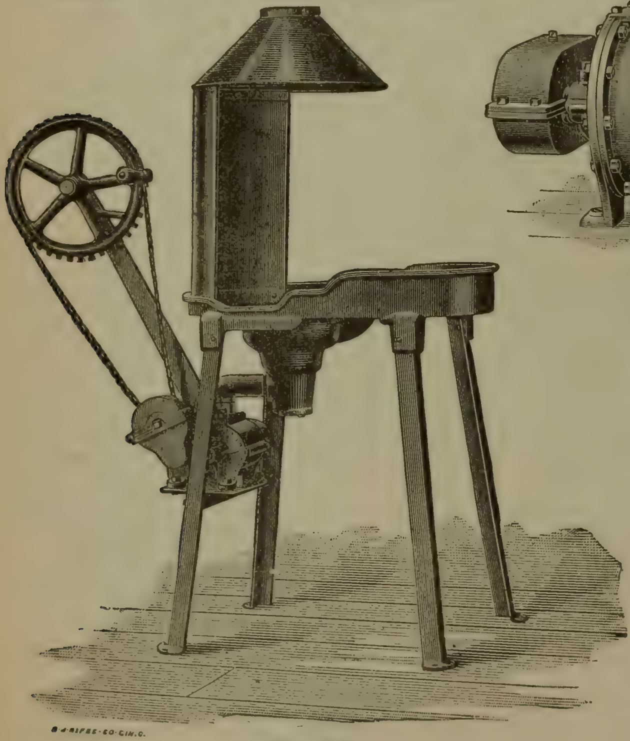

B.J.BIFEE-CO-CIN.O.

Fig. 684.

SIZES AND PRICES.

No.	Size Hearth.	Size Bellows Equal to	*Weight.	Prices, f. o. b. New York.
1	21½ x 13 in.	30 in.	145 lbs.	$33.00
2	24 x 16 "	40 "	170 "	37.00
3	20 x 30 "	50 "	250 "	41.00
4	37½ x 25 "	60 "	300 "	45.00
5	46½ x 31 "	. .	. .	53.00

*In shipping order.

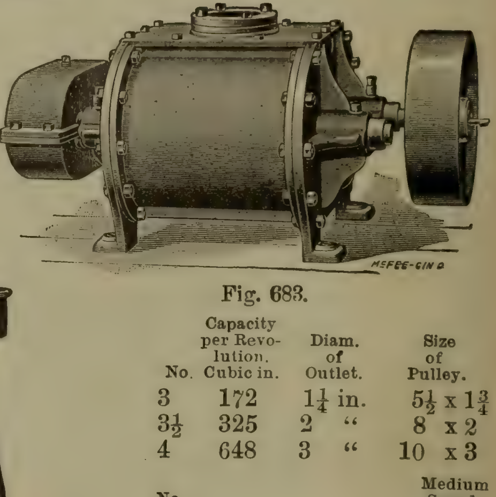


Fig. 683.

No.	Capacity per Revolution. Cubic in.	Diam. of Outlet.	Size of Pulley.
3	172	1¼ in.	5½ x 1¾
3½	325	2 "	8 x 2
4	648	3 "	10 x 3

No.	Medium Speed.
3	450
3½	400
4	350

No.	Dimensions of Blowers.
3	10 x 10½ x 16 inches.
3½	11 x 13 x 23 "
4	12 x 16 x 26 "

No.	Weights. Net.	Weights. Gross.
3	55 lbs.	75 lbs.
3½	85 "	110 "
4	188 "	215 "

No. 3 made with top discharge only. No. 3½ and No. 4 with top or side discharge.

Price of Fig. 683 on application.

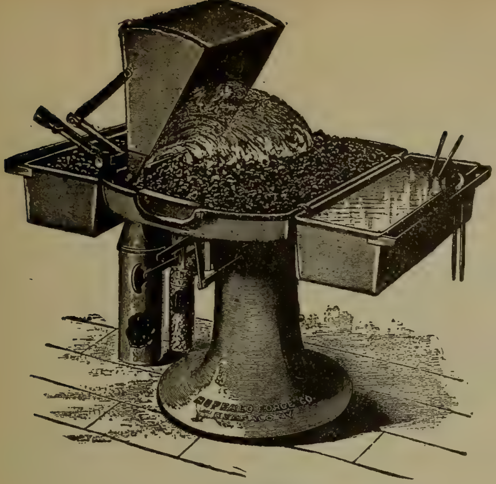

BUFFALO FORGE CO. BUFFALO, N.Y.

Fig. 685.

BUFFALO STATIONARY BLAST FORGE.

(PATENTED.)

Fig. 685.

With Down-Draft Smoke Exhaust Hood; also Anti-Clinker Dumping Tuyere.

Size of Fire Pan, 24 in. x 36½ in. Coal Box, length, 27¼ in.; width, 9 in.; depth, 6½ in. Water Tank, length, 27¼ in.; width, 9 in.; depth, 6½ in. Height of Forge, 29 in.; weight, 470 lbs.

Price, $65.00.

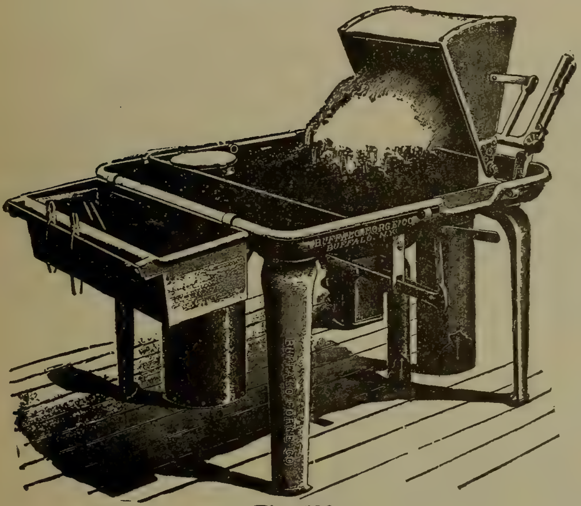

BUFFALO FORGE CO. BUFFALO, N.Y.

Fig. 686.

BUFFALO STATIONARY BLAST FORGE.

(PATENTED.)

Adapted to Moderate and Heavy Work.

Fig. 686.

With Down-Draft Smoke Exhaust Hood; also Anti-Clinker Dumping Tuyere, Blast Gate, and Coal and Water Boxes.

Size Fire Pan, 37 in. x 41 in. Coal Box, length, 35½ in.; width, 7¾ in.; depth, 3½ in. Water Tank, length, 27¼ in.; width, 9 in.; depth, 6½ in. Height of Forge, 27¼ in. Weight, 550 lbs.

Price, $70.00.

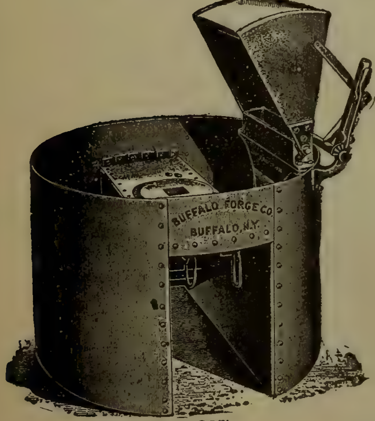

BUFFALO FORGE CO BUFFALO, N.Y.

Fig. 687.

BUFFALO STATIONARY BLAST FORGE.

(PATENTED.)

For Moderate and Heavy Work. Steel Plate Construction.

Fig. 687.

With Down-Draft Smoke Exhaust Hood, Anti-Clinker Dumping Tuyere and Blast Gate.

Size Fire Pan, 36 in. diameter. Height of Forge, 26 in. Weight, 330 lbs.

Price, $75.00.

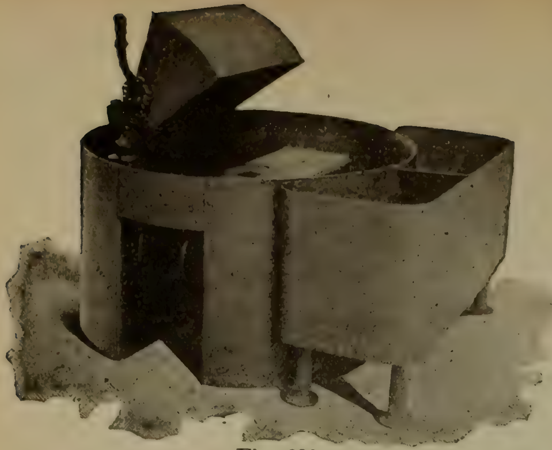


Fig. 688.

BUFFALO STATIONARY BLAST FORGE.

(PATENTED.)

For Moderate and Heavy Work. Steel Plate Construction.

Fig. 688.

With Down draft Smoke Exhaust Hood, Anti-clinker Dumping Tuyere, Blast Gate, and Coal and Water Boxes.

Size Fire Pan, 36 in. diameter; Coal Box, length, 15½ in.; width, 10 in.; depth, 15 in. Water Tank, length, 18½ in.; width, 10 in.; depth, 15 in. Height of Forge, 26 in. Weight, 410 lbs.

Price, $100.00

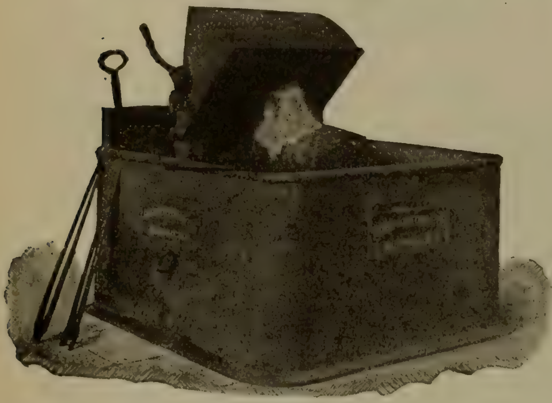


Fig. 689.

BUFFALO STATIONARY BLAST FORGE.

(PATENTED.)

For Extra Heavy Work in Railroad Repair Shops, etc.

Fig. 689.

With Down-draft Smoke Exhaust Hood and Blast Gate.

Size of Fire Pan, 42 in. x 42 in. Height of Forge, 24 in. Weight, 1,540 lbs.

PRICE ON APPLICATION.

SPECIAL BUFFALO STATIONARY BLAST HEATING FORGE.

With Down-draft Exhaust Hoods for Removing Gases and Fumes. Designed for Large Railroad Work.

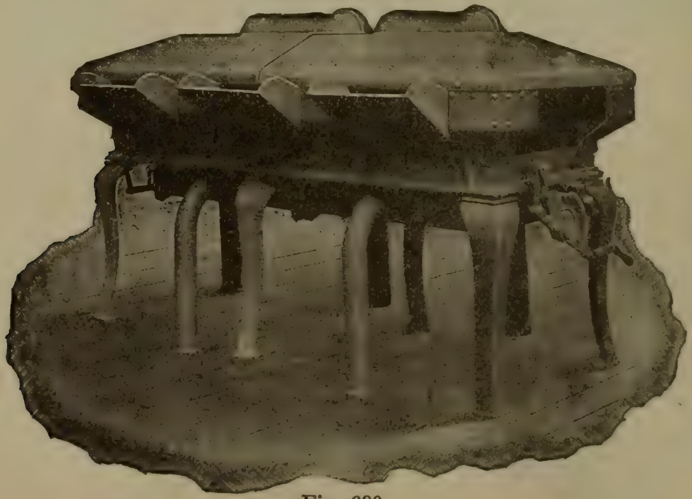


Fig. 690.

PRICE ON APPLICATION.

IMPROVED
COUNTER-SHAFTS FOR STEEL PRESSURE BLOWERS.

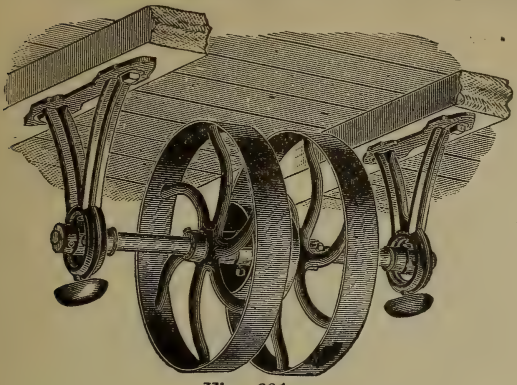


Fig. 691.

Nos. 1 to 6 regularly have but one driving pulley; Nos. 7 to 12 have two driving pulleys. Additional pulleys, also tight and loose pulleys, may be furnished on these counter-shafts at a small additional price.

PRICE LIST, SIZES AND DIMENSIONS.

Number of Steel Pressure Blower.	Diameter of Pulley Driving Blower.	Diam. of Pulley Driven by Main Belt from Line Shaft.	Diameter of Shaft.	Price with One Driving Pulley.	Price with Two Driving Pulleys.
1	12	4	$\frac{7}{8}$	$8.00	
2	14	5	1	10.00	
3	16	6	$1\frac{1}{8}$	12.00	
4	18	7	$1\frac{1}{4}$	16.00	
5	21	8	$1\frac{3}{8}$	20.00	
6	26	9	$1\frac{5}{8}$	25.00	
7	30	10	$1\frac{3}{4}$	30.00	$35.00
8	32	12	2	40.00	45.00
9	36	14	$2\frac{1}{4}$	50.00	60.00
10	40	16	$2\frac{1}{2}$	70.00	80.00
11	42	17	$2\frac{3}{4}$	80.00	90.00
$11\frac{1}{2}$	44	18	3	90.00	100.00
12	44	18	3	100.00	110.00

IMPROVED BLAST GATES, SLIDE PATTERN.

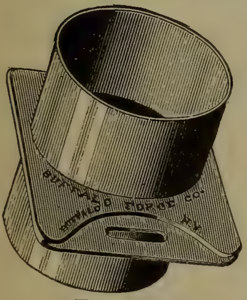


Fig. 692.

PRICE LIST WITH SIZES.

Size.	Material.	Price.
2 in.	Cast iron with steel slide,	$1.00
$2\frac{1}{2}$ "	" " " " "	1.25
3 "	" " " " "	1.50
4 "	" " " " "	2.00
5 "	" " " " "	2.25
6 "	" " " " "	2.50
8 "	" " " " "	3.50
10 "	" " " " "	5.00
12 "	" " " " "	6.50
14 "	" " " " "	8.00
16 "	" " " " "	12.00
18 "	" " " " "	16.00
20 "	" " " " "	18.00
24 "	" " " " "	21.00

These Gates are designed especially for regulating the supply of air in pipes from Buffalo Blowers and Exhaust Fans. The lever pattern of Blast Gates can also be furnished at same prices, but their use is not generally convenient or desirable.

ACME FIRE-BED AND TUYERE.
FOR USE IN BRICK FORGE.

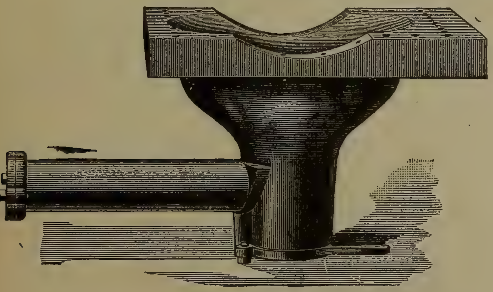


Fig. 693.

SIZES AND PRICES.

No. 3, $14\frac{1}{4}$ in. square x $11\frac{1}{2}$ deep. Weight, 63 lbs.
Price, $5.70.

No. 4, 18 in. square x 12 deep. Weight, 80 lbs.
Price, $6.50.

Directions for Setting.

Construct forge with inside cross walls $12\frac{1}{2}$ inches in the clear for No. 3 and 16 inches in the clear for No. 4. The space below fire-bed must be left entirely open to permit free circulation of air. After fire-bed is placed, the hearth should be joined up to it on all sides as high as the top.

THE BUFFALO STEEL PRESSURE BLOWER, FOR CUPOLA AND FORGE FIRES.

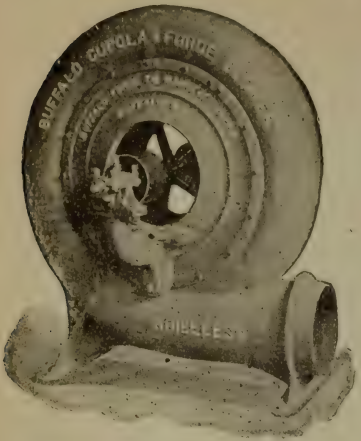


Fig. 694.

Number of Blower.	Height in Inches.	Diameter of Outlet.	Diameter of Pulley.	Face of Pulley.	Price without Countershaft.	Price with Countershaft.	ADJUSTABLE BED Price with Bed but without Countershaft.	ADJUSTABLE BED Price with Bed and with Countershaft.
1	12½	3⅝	2½	1¾	$12.00	$20.00		
2	15	4	2½	2¼	18.00	28.00		
3	20	4⅝	3¼	2⅝	26.00	38.00		
4	24	5⅛	4	3	36.00	52.00		
5	26	5½	4¼	3	44.00	64.00		
6	30	6¼	4½	3½	55.00	80.00		
7	35	7¼	5	4½	70.00	100.00	$100.00	$135.00
8	40	8⅝	6	4½	90.00	130.00	130.00	175.00
9	45	10	7	5	115.00	170.00	170.00	230.00
10	56	12¼	8	5¾	160.00	230.00	265.00	350.00
11	66	14⅜	9	6¼	225 00	300.00	330.00	435.00
11½	76	16½	10	7	275.00	350.00	380.00	500.00
12	80	18	10	8	325.00	400.00	475.00	625.00

Nos. 1 to 6 Blowers, inclusive, have one pulley, and Nos. 7 to 12 have two pulleys.

TABLE OF SPEEDS AND CAPACITIES AS APPLIED TO FORGE FIRES.

Number of Blower.	Number of Forges Ordinary Size.	4-OUNCE PRESSURE. SPEED. No. of Revolutions per Minute.	4-OUNCE PRESSURE. Cubic Feet of Air per Minute.	5-OUNCE PRESSURE. SPEED. No. of Rev. olutions per Minute.	5-OUNCE PRESSURE. Cubic Feet of Air per Minute.	6-OUNCE PRESSURE. SPEED. No. of Revolutions per Minute.	6-OUNCE PRESSURE. Cubic Feet of Air per Minute.	7-OUNCE PRESSURE. SPEED. No. of Revolutions per Minute	7-OUNCE PRESSURE. Cubic Feet of Air per Minute.
2	4	4825	336.	5405	369.6	5933	403.2	6422	436.8
3	5	3977	493.5	4456	522.85	4892	592.2	5256	641.55
4	6	3318	560.	3718	616.	4081	672.	4417	728.
5	7	2952	686.	3317	754.6	3630	823.2	3929	891.8
6	9	2556	831.25	2864	914.37	3156	997.5	3170	1074.6
7	13	2275	1252.3	2547	1377.5	2798	1502.7	3028	1627.9
8	18	2067	1559.45	2118	1747.2	2543	1897.8	2752	2075.7
9	26	1850	2013.14	2073	2255.6	2276	2476.8	2464	2669.6
10	38	1371	3096.3	1668	3469.3	1686	3808.1	1825	4121.6
11	60	1108	4168.	1240	4670.	1363	5126.	1500	5548
11½	92	960	5835.	1051	6538.	1160	7176.	1250	7768.
12	98	900	6870.	1000	7705.	1100	8457.	1200	8876.

TABLE OF SPEEDS AND CAPACITIES AS APPLIED TO FOUNDRY CUPOLAS.

Number of Blower.	Square Inches Blast.	Diam. Inside of Cupola, in Inches	Pressure in Ounces.	SPEED. No. of Revolutions per Minute.	Melting Capacity in lbs. per Hour.	Cubic Feet of Air Required per Minute.	Pressure in Ounces.	SPEED. No. of Revolutions per Minute.	Melting Capacity in lbs. per Hour.	Cubic Feet of Air Required per Minute.
4	4	20	8	4732	1545	666	9	5030	1647	717
5	6	25	8	4209	2321	773	10	4726	2600	867
6	8	30	8	3660	3093	951	10	4108	3671	1067
7	14	35	8	3244	4218	1486	10	3642	4777	1668
8	18	40	8	2948	5425	2199	10	3310	6082	2469
9	26	45	10	2785	7818	3203	12	3260	8598	3523
10	36	55	10	2195	11295	4938	12	2413	12378	5431
11	45	65	12	1952	16955	7707	14	2110	18357	8358
11½	55	72	12	1647	22607	10276	14	1797	25176	11144
12	75	84	12	1625	25836	11744	14	1775	28019	12736

ROOTS' BLOWERS FOR CUPOLAS.

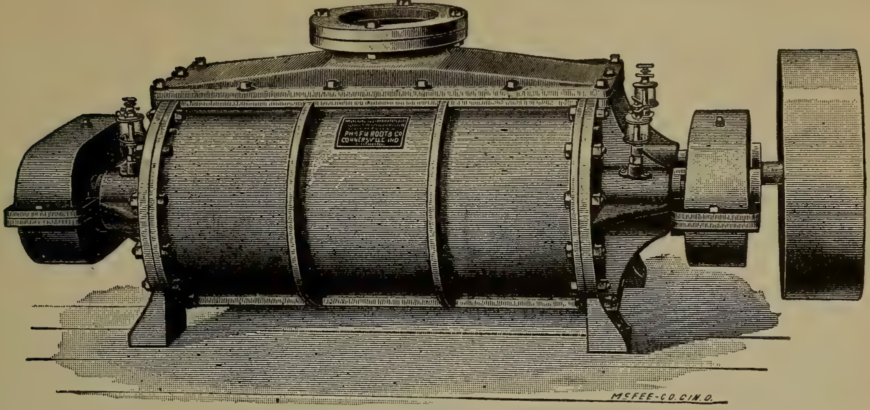


Fig. 695.

SPEEDS AND CAPACITIES.

No. 1 BLOWER.—Adapted to a cupola 23 to 27 inches inside lining. Discharges 3 cubic feet per revolution.

250 revolutions per minute will melt $1\frac{1}{2}$ tons per hour.
280 " " " " $1\frac{5}{8}$ " " "
325 " " " " $1\frac{9}{10}$ " " "

No. 2 BLOWER.—Adapted to a cupola 28 to 30 inches inside lining. Discharges 5 cubic feet per revolution.

250 revolutions per minute will melt $2\frac{1}{2}$ tons per hour.
275 " " " " $2\frac{7}{10}$ " " "
300 " " " " 3 " " "

No. 3 BLOWER.—Adapted to a cupola 30 to 32 inches inside lining. Discharges 8 cubic feet per revolution

225 revolutions per minute will melt $3\frac{3}{5}$ tons per hour.
250 " " " " 4 " " "
275 " " " " $4\frac{2}{5}$ " " "

No. 4 BLOWER.—Adapted to a cupola 33 to 42 inches inside lining. Discharges 13 cubic feet per revolution.

200 revolutions per minute will melt $5\frac{1}{5}$ tons per hour.
225 " " " " $5\frac{4}{5}$ " " "
250 " " " " $6\frac{1}{2}$ " " "

No. 5 BLOWER.—Adapted to a cupola 43 to 48 inches inside lining. Discharges 22 cubic feet per revolution.

175 revolutions per minute will melt $7\frac{7}{10}$ tons per hour.
200 " " " " $8\frac{4}{5}$ " " "
225 " " " " $9\frac{9}{10}$ " " "

No. 6 BLOWER.—Adapted to a cupola 48 to 60 inches inside lining. Discharges 37 cubic feet per revolution.

150 revolutions per minute will melt $11\frac{1}{10}$ tons per hour.
175 " " " " $12\frac{9}{10}$ " " "
200 " " " " $14\frac{4}{5}$ " " "

No. 7 BLOWER.—Adapted to a cupola 78 or two cupolas 54 inches inside lining. Discharges 63 cubic feet per revolution.

120 revolutions per minute will melt 15 tons per hour.
140 " " " " $17\frac{3}{4}$ " " "
160 " " " " $20\frac{1}{10}$ " " "

No. 8 BLOWER.—Adapted to a cupola 84 or two cupolas 60 inches inside lining. Discharges 116 cubic feet per revolution.

90 revolutions per minute will melt 21 tons per hour.
100 " " " " $23\frac{1}{5}$ " " "
110 " " " " $25\frac{1}{2}$ " " "

No. 9 BLOWER.—Adapted to two cupolas 72 or three cupolas 60 inches inside lining. Discharges 196 cubic feet per revolution.

80 revolutions per minute will melt $31\frac{1}{3}$ tons per hour.
90 " " " " 35 " " "
100 " " " " 39 " " "

Sizes .	1	2	3	4	5	6	7	8	9
Prices .	$								

DIXON'S CRUCIBLES.

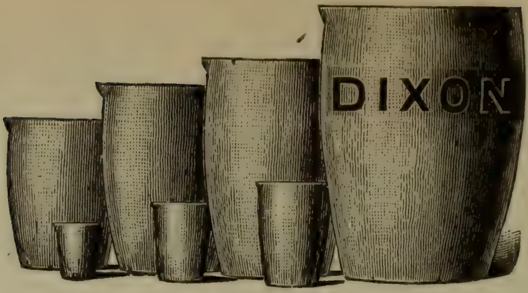


Fig. 696.

Nos.	Weight of Crucible. Lbs.	Oz.	Height Outside. Inches.	Diameter at the Top Outside. Inches.	Diameter at the Bilge Outside. Inches.	Diameter at the Bottom Outside. Inches.	Prices.	Holding Capacity.
1		8	3¼	2⅝	2⅝	1⅝	20 cts. each.	Three Pounds of Molten Metal per Number.
2		12	4	2⅞	2⅞	1⅞	25 " "	
3	1		4½	3½	3½	2¼	30 " "	
4	1	6	5	4	4	2⅜	35 " "	
5	2		5½	4⅛	4⅛	2¾	40 " "	
6	2	6	5¾	4½	4½	2¾	45 " "	
7	2	14	6¼	5	5	3¼	50 " "	
8	3	6	6¾	5¼	5¼	3¼	55 " "	
9	4		7½	5⅜	5⅜	3⅜	60 " "	
10	6	8	7⅝	6	6½	4	65 " "	
12	7	6	8	6¼	6¾	5	No. 12 and upwards 5½ cents per No.	
14	8	14	8¼	6¾	7¼	5		
16	9	12	8¾	7⅛	7⅝	5½		
18	11	6	9¾	7½	8¼	5⅝		
20	13	8	10⅛	7¾	8⅝	6		
25	15		10½	8¼	9	6¼		
30	18	4	11¼	8⅝	9½	6⅝		
35	21		11⅝	9¼	9¾	7		
40	25	2	12¼	9½	10½	7¾		
45	27	8	13	10	10¾	7½		
50	30		13¼	10¼	11¼	7¾		
60	33		14	10½	11½	8		
70	36	6	14½	10¾	12	8½		
80	42		15¼	11⅛	12⅜	8⅝		
90	46		15⅞	11½	12½	9		
100	48		16¼	11¾	13	9¼		
125	53	8	16¾	12¼	13¾	9½		
150	65	8	18¼	13	14¾	10⅜		
200	78	4	20	14¼	16	10¾		
300	96	12	21	15¼	17	11½		

PRICES OF COVERS.

No. 1	10 cents each.	No. 8	15 cents each.
" 2	10 " "	" 9	15 " "
" 3	10 " "	" 10	15 " "
" 4	10 " "	" 12	18 " "
" 5	10 " "	" 14	18 " "
" 6	15 " "	" 16	18 " "
" 7	15 " "	" 18 and upward, 1 cent per No.	

The above prices are subject to change without notice.

DIAMOND RAPPING PLATES AND DRAW SCREWS.

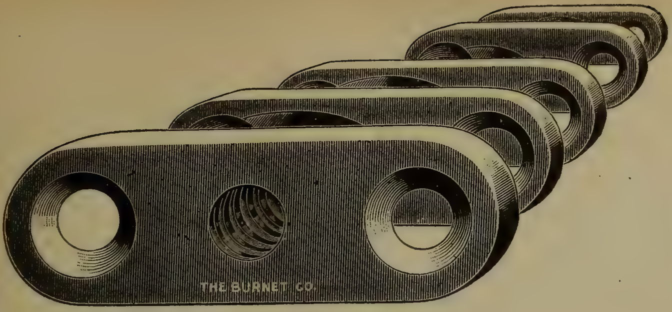

THE BURNET CO.

Fig. 697.

Price per 100.

$\frac{1}{2}$ inch	Plates,		$3.25
$\frac{3}{4}$	“	“	4 25
1	“	“	5.75
$1\frac{1}{4}$	“	“	8.50
$1\frac{1}{2}$	“	“	12.75

Only One Size Draw Screw Required—$\frac{3}{8}$-inch Draw Screws, $12.75 per 100.

FRASER'S RAPPING PLATES.

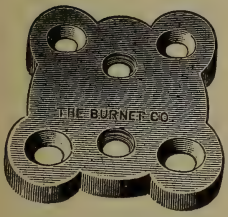

THE BURNET CO.

Fig. 698.

No.		Per Doz.	No.		Per Doz.
1	tapped $\frac{3}{8}$ in.	$ .50	11	tapped $\frac{1}{2}$ in.	$1.05
2	“ “	.50	12	“ $\frac{5}{8}$ in.	1.15
3	“ “	.50	13	“ “	1.30
4	“ “	.60	14	“ “	1.45
5	“ “	.60	15	“ “	1.65
6	“ “	.70	16	“ “	2.10
7	“ $\frac{1}{2}$ in.	.75	17	“ “	2.85
8	“ “	.85	18	“ $\frac{3}{4}$ in.	3.30
9	“ “	.90	19	“ “	3.90
10	“ “	1.00	20	“ “	4.35

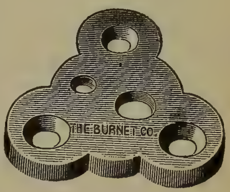

THE BURNET CO.

Fig. 699.

Made of Malleable Iron with Rapping Holes, Tapped Draw Holes and Screw Holes.

LIFTERS.

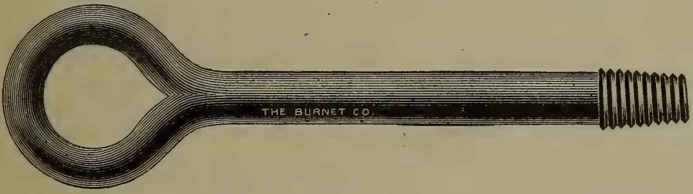

THE BURNET CO.

Fig. 700.

$\frac{3}{8}$ in.,	per doz.		$1.80
$\frac{1}{2}$	“	“	2.25
$\frac{5}{8}$	“	“	2.70
$\frac{3}{4}$	“	“	3.30

FLEXIBLE METALLIC FILLET.

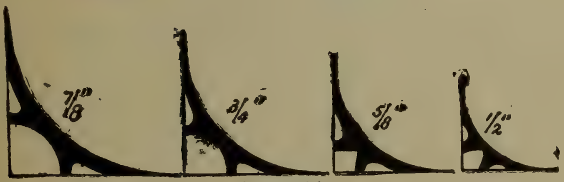


Fig. 701.

Not affected by heat, cold, or moisture. Will work around shortest curves.

Put up in 100-foot Reels.

Size number . . .	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Price per foot . . .	$0.04	.05	.06	.08	.10	.12	.15	.20

BELDING LEATHER FILLET.

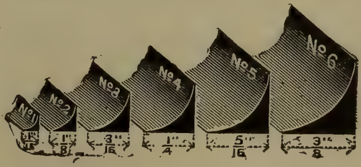


Fig. 702.

This cut shows measurements in inches, angle measure.

Price per 100 feet.

Size . .	$\frac{1}{16}$	$\frac{1}{8}$	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1
Price . .	$1.00	1.50	2.00	2.50	3.00	3.50	4.00	5.00	6.00	7.00	8.00

PATTERN LETTERS AND FIGURES.

MEASURE ON FACE.

A ⅜-inch Letter or Figure will measure 7-16 on the back.

ROMAN STYLE.

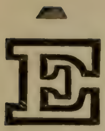


Fig. 703.
⅜ inch
Face Measure.

Size, inches .	⅛	3/16	¼	5/16	⅜	7/16
Price, each, cts.	.02	.02	.02	.02	.02½	.02½
Size, inches .	½	9/16	⅝	¾	⅞	1
Price, each, cts.	.02½	.03	.03	.03½	.04	.04½
Size, inches .	1¼	1½	1¾	2	2½	3
Price, each, cts.	.06	.08	09	.10	.14	.16

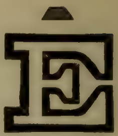


Fig. 704.
7/16 inch
Face Measure.

SHARP GOTHIC STYLE.

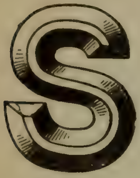


Fig. 705.
¾ inch
Face Measure.

Size, inches .	⅛	3/16	¼	5/16	⅜	7/16
Price, each, cts.	.02	.02	.02	.02	.02½	.02½
Size, inches .	½	9/16	⅝	¾	⅞	1
Price, each, cts.	.02½	.03	.03	.03½	.04	.04½
Size, inches .	1¼	1½	1¾	2	2½	3
Price, each, cts.	.06	.08	.09	.10	.14	.15

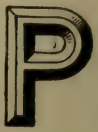


Fig. 706.
½ inch
Face Measure.

ROUND FACE GOTHIC.

These are lighter and thinner than the sharp face.

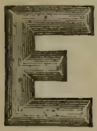


Fig. 707.
½ inch
Face Measure.

Size, inches .	3/16	¼	5/16	⅜	7/16	½
Price, each, cts.	.02	.02	.02	.02½	.02½	.02½
Size, inches .	9/16	⅝	¾		⅞	1
Price, each, cts.	.03	.03	.03½		.04	.4½
Size, inches .	1¼	1½	2		2½	3
Price, each, cts.	.06	.08	.10		.14	.15

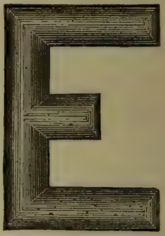


Fig. 708.
1 inch
Face Measure.

GOTHIC STYLE FLAT FACE.

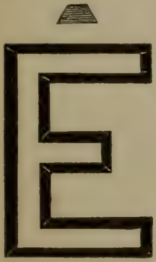


Fig. 709.
1 inch
Face Measure.

Size, inches	⅛	5/15	¼	5/16	⅜	7/16
Price, each, cts.	.02	.02	.02	.02	.02½	.02½
Size, inches	½	⅝	¾	⅞	1	1¼
Price, each, cts.	.02½	.03	.03½	.04	.04½	.06
Size, inches	1½	1¾	2	2½	3	
Price, each. cts.	.08	.09	.10	.14	.15	

FANCY LETTERS AND FIGURES.

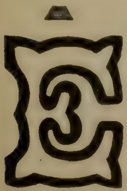


Fig. 710.
¾ inch
Face Measure.

Size, inches	⅜	½	⅝	¾	⅞
Price, each, cts	.03	.03	.04	.05	.05½
Size, inches	1	1¼	1½	2	
Price, each, cts.	.06	.08	.10	.12	

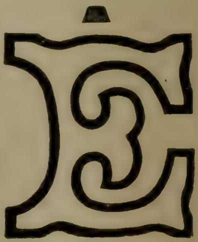


Fig. 711.
1 inch
Face Measure.

THE BURNET COMPANY, NEW YORK.

PATTERN LETTERS AND FIGURES.

MEASURE ON THE FACE.

SKELETON GOTHIC.

These are lighter and thinner than the Round Gothic.

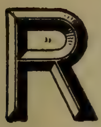


Fig. 712.
½ inch.
Face Measure.

Size, inches	1/8	3/16	1/4	5/16	3/8	7/16	1/2
Price, each, cts.	.02	.02	.02	.02	.02½	.02½	.02½
Size, inches	9/16	5/8	3/4	7/8	1		
Price, each, cts.	.03	.03	.03½	.04	.04½		
Size, inches	1¼	1½	1¾	2	2½		
Price, each, cts.	.06	.08	.09	.10	.14		

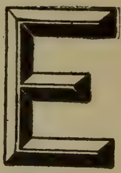


Fig. 713.
¾ inch.
Face Measure.

EXTRA THICK SHARP GOTHIC.

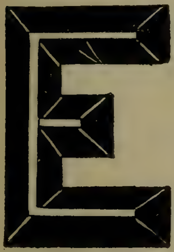


Fig. 714.
1 inch.
Face Measure.

Size, inches	1/4	3/8	1/2	5/8	3/4
Price, each, cts.	.02½	.03	.03	.03½	.04
Size, inches	1	1¼	1½	1¾	2
Price, each, cts.	.05	.07	.09	.10	.12

These are also made with Flat Top at same list price.

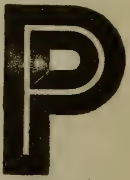


Fig. 715.
¾ inch.
Face Measure.

HEAVY BLOCK LETTERS AND FIGURES.

These are desirable where letters on face of castings are planed off.

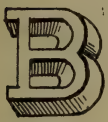


Fig. 716.
½ inch.

Size, inches	1/2	5/8	3/4	1
Price, each, cts.	.04	.05	.06	.07
Size, inches	1¼	1½	2	
Price, each, cts.	.09	.11	.13	

FRACTIONALS.

To match all sizes of figures of Roman, Sharp Gothic, Round Gothic and Flat Gothic styles.

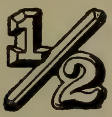


Fig. 717.

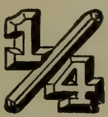


Fig. 718.

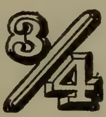


Fig. 719.

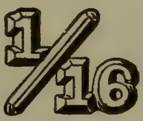


Fig. 720.

Price of each Fractional double the price of same size figure. That is, list-price of ½ inch figure is 2½ cents—fractional to match would be 5 cents, etc.

ROMAN STYLE BRANDING LETTERS. (Reversed.)

For making Cast Iron Branding Irons.

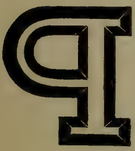


Fig. 721.

⅛ inch deep.

Size, inches	1/4	3/8	1/2	5/8	3/4	1
Price, each, cts.	.03	.03	.04	.05	.06	.07

GOTHIC STYLE, EXTRA DEEP BRANDING LETTERS.

(Reversed.)

All 5-16 inch deep.

Size, inches	1/2	5/8	3/4	1	1¼	1½	2
Price, each, cts.	.05	.06	.07	.08	.10	.11	.13

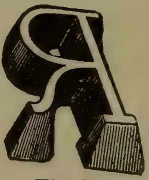


Fig 722.

BEST STEEL LETTERS AND FIGURES.

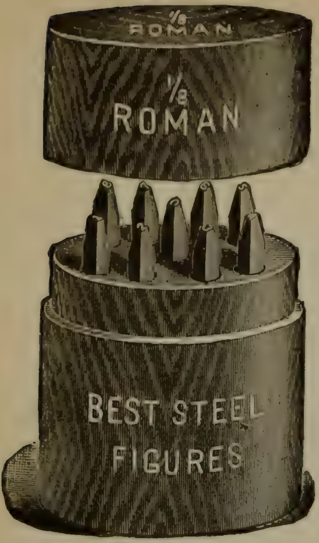


Fig. 723.

	Figures, per Set of 9.	Figures, Single, Each.
Size, $\frac{1}{32}$ inch,	$1.25	$0.20
“ $\frac{1}{20}$ “	1.13	.20
“ $\frac{1}{16}$ “	.90	.15
“ $\frac{1}{12}$ “	.90	.15
“ $\frac{3}{32}$ “	.90	.15
“ $\frac{1}{10}$ “	.90	.15
“ $\frac{1}{8}$ “	.90	.15
“ $\frac{5}{32}$ “	1.13	.16
“ $\frac{3}{16}$ “	1.25	.18
“ $\frac{7}{32}$ “	1.40	.20
“ $\frac{1}{4}$ “	1.50	.20
“ $\frac{5}{16}$ “	1.75	.25
“ $\frac{3}{8}$ “	2.50	.35
“ $\frac{7}{16}$ “	3.50	.45
“ $\frac{1}{2}$ “	4.50	.50
“ $\frac{5}{8}$ “	11.50	1.75
“ $\frac{3}{4}$ “	21.00	3.25

These letters and figures are made of the best steel, are correctly shaped, hardened, and the temper carefully drawn. These are variously used, according to size, for stamping Key Checks, Jewelers' Checks, Baggage Checks, Iron, Steel, Wood, Leather, Patented Articles, etc., etc.

Every set is put up in a neat, compact, dust-proof wooden box, properly labeled —handy alike to the dealer and the person using them.

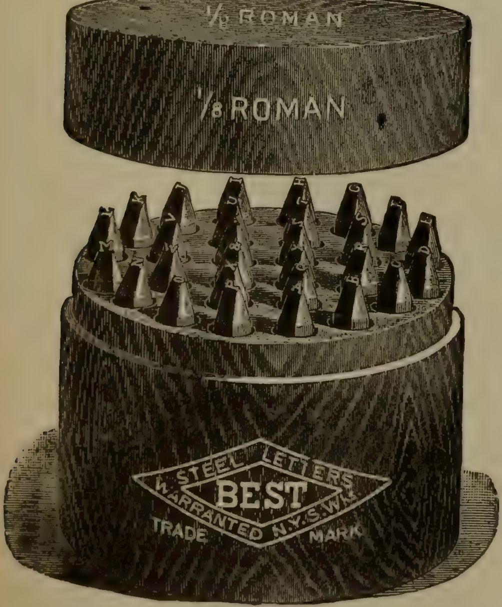


Fig. 724.

	Letters, per Set of 28.	Letters, Single, Each.
Size, $\frac{1}{32}$ inch,	$3.75	$0.20
“ $\frac{1}{20}$ “	3.39	.20
“ $\frac{1}{16}$ “	2.70	.15
“ $\frac{1}{12}$ “	2.70	.15
“ $\frac{3}{32}$ “	2.70	.15
“ $\frac{1}{10}$ “	2.70	.15
“ $\frac{1}{8}$ “	2.70	.15
“ $\frac{5}{32}$ “	3.39	.16
“ $\frac{3}{16}$ “	3.75	.18
“ $\frac{7}{32}$ “	4.20	.20
“ $\frac{1}{4}$ “	4.50	.20
“ $\frac{5}{16}$ “	5.25	.25
“ $\frac{3}{8}$ “	7.50	.35
“ $\frac{7}{16}$ “	10.50	.45
“ $\frac{1}{2}$ “	13.50	.50
“ $\frac{5}{8}$ “	34.50	1.75
“ $\frac{3}{4}$ “	63.00	3.25

We furnish also hollow-faced steel stencil dies for letters and figures, all sizes; malleable iron case-hardened stencil dies, $\frac{3}{4}$ and 1 inch; steel stamping dies for letters and figures to $\frac{1}{2}$ inch.

NEW LINE OF S WRENCHES.

HEXAGON.

The size of finished openings on list shows the largest size the openings can be finished.

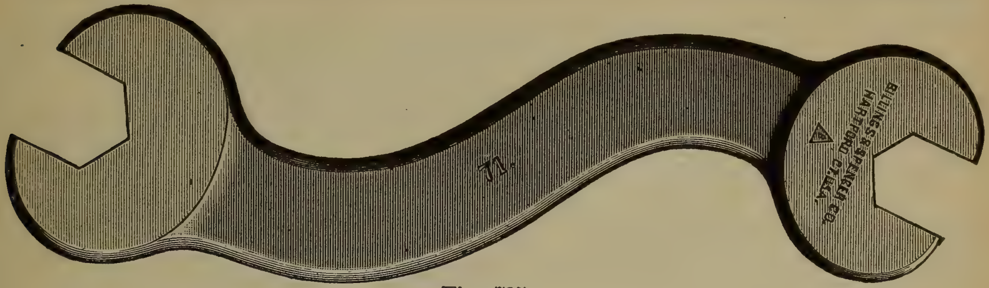

71.
BILLINGS & SPENCER CO.
HARTFORD, CONN.

Fig. 725.

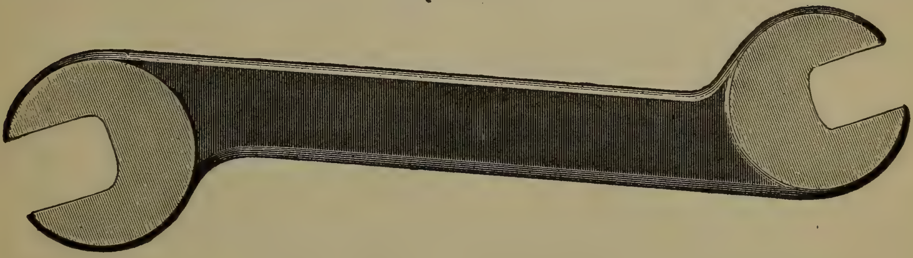
No.	Length Inches.	Thickness of Head. Inches.	Finished. Size of Opening.	Finished. Price.	Unfinished. Size of Opening.	Unfinished. Price.
70	4	1/4	3/8 and 7/16	$0.20	5/16 and 3/8	$0.10
71	5	5/16	1/2 “ 9/16	.30	7/16 “ 1/2	.15
72	6	3/8	3/4 “ 13/16	.40	9/16 “ 5/8	.20
73	7	7/16	7/8 “ 1	.50	11/16 “ 3/4	.25
74	8	1/2	1 “ 1 1/8	.60	13/16 “ 7/8	.30
75	9	9/16	1 3/16 “ 1 1/4	.70	15/16 “ 1	.35

We also finish these Wrenches to following sizes for Standard nuts :

No. 71 . . .	1/2 and 19/32 . . .	Price, $0.30
No. 72 . . .	11/16 “ 25/32 . . .	“ .40
No. 73 . . .	7/8 “ 31/32 . . .	“ .50
No. 74 . . .	31/32 “ 1 1/16 . . .	“ .60
No. 75 . . .	1 1/16 “ 1 1/4 . . .	“ .70

In ordering finished Wrenches state which sizes are wanted, the regular or *Standard*

SQUARE.



Cut is full size of No. 76 Wrench.

Fig. 726.

New line of Double End Wrenches to finish for Standard hexagon, or square nuts. This line of Wrenches are lighter than any before made, and are intended to meet the wants of customers for a light Wrench.

No.	Length Inches.	Thickness of Head. Inches.	For Standard Hex. Nuts for Bolts.	Finished. Size of Opening.	Finished. Price.	Unfinished. Size of Opening.	Unfinished. Price.
76	4 1/2	1/4	3/16 and 1/4	3/8 and 1/2	$0.30	3/8 and 7/16	$0.15
77	5 3/4	9/32	5/16 “ 3/8	19/32 “ 11/16	.40	9/16 “ 5/8	.20
78	7	5/16	3/8 “ 1/2	11/16 “ 7/8	.50	11/16 “ 13/16	.25
79	8	11/32	7/16 “ 9/16	25/32 “ 31/32	.60	3/4 “ 15/16	.30
80	9 1/4	3/8	9/16 “ 5/8	31/32 “ 1 1/16	.70	7/8 “ 1	.35
81	10 1/2	7/16	5/8 “ 7/8	1 1/16 “ 1 7/16	80	1 1/16 “ 1 5/16	.40

15° ANGLE DOUBLE END WRENCHES.

DROP FORGED OF STEEL.

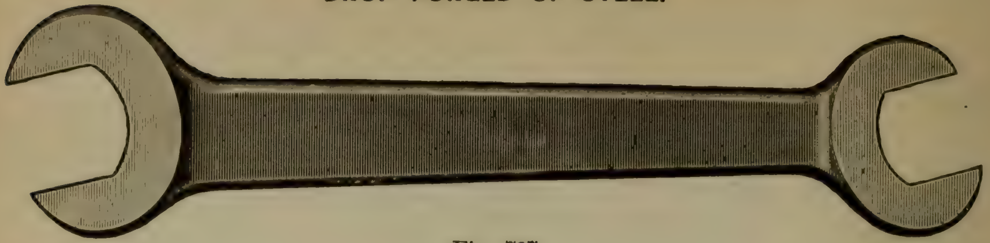


Fig. 727

For United States Standard Nuts for Bolts from $\frac{1}{8}$ inch to $2\frac{1}{4}$ inches diameter, inclusive. All Wrenches, either in forged state or finished, have Milled Openings.

No. of Wrench.	Size Bolts, U. S. Standard Nuts.	Milled Openings for U. S. Standard Nuts.	Extreme Length.	Thickness of Head.	Price, each, in Forged State.	Price, each, in Finished State.
285	$\frac{1}{8}$ and $\frac{3}{16}$	$\frac{5}{16}$ and $\frac{13}{32}$	3	$\frac{5}{32}$ and $\frac{5}{32}$	$0.12	$0.24
286	$\frac{1}{8}$ " $\frac{1}{4}$	$\frac{5}{16}$ " $\frac{1}{2}$	4	$\frac{3}{16}$ " $\frac{3}{16}$	.14	.28
287	$\frac{3}{16}$ " $\frac{1}{4}$	$\frac{13}{32}$ " $\frac{1}{2}$	4	$\frac{3}{16}$ " $\frac{3}{16}$	.15	.30
288	$\frac{3}{16}$ " $\frac{5}{16}$	$\frac{13}{32}$ " $\frac{19}{32}$	5	$\frac{1}{4}$ " $\frac{1}{4}$	.17	.34
289	$\frac{1}{4}$ " $\frac{5}{16}$	$\frac{1}{2}$ " $\frac{19}{32}$	5	$\frac{1}{4}$ " $\frac{1}{4}$	.18	.36
290	$\frac{1}{4}$ " $\frac{3}{8}$	$\frac{1}{2}$ " $\frac{11}{16}$	$5\frac{1}{2}$	$\frac{9}{32}$ " $\frac{9}{32}$	.20	.40
291	$\frac{5}{16}$ " $\frac{3}{8}$	$\frac{19}{32}$ " $\frac{11}{16}$	$5\frac{1}{2}$	$\frac{9}{32}$ " $\frac{9}{32}$	.21	.42
292	$\frac{5}{16}$ " $\frac{7}{16}$	$\frac{19}{32}$ " $\frac{25}{32}$	$6\frac{1}{2}$	$\frac{5}{16}$ " $\frac{5}{16}$	.23	.46
293	$\frac{3}{8}$ " $\frac{7}{16}$	$\frac{11}{16}$ " $\frac{25}{32}$	$6\frac{1}{2}$	$\frac{5}{16}$ " $\frac{5}{16}$	.25	.50
294	$\frac{3}{8}$ " $\frac{1}{2}$	$\frac{11}{16}$ " $\frac{7}{8}$	7	$\frac{3}{8}$ " $\frac{3}{8}$	.30	.60
295	$\frac{7}{16}$ " $\frac{1}{2}$	$\frac{25}{32}$ " $\frac{7}{8}$	7	$\frac{3}{8}$ " $\frac{3}{8}$	.30	.60
296	$\frac{7}{16}$ " $\frac{9}{16}$	$\frac{25}{32}$ " $\frac{31}{32}$	9	$\frac{7}{16}$ " $\frac{7}{16}$	.33	.66
297	$\frac{1}{2}$ " $\frac{9}{16}$	$\frac{7}{8}$ " $\frac{31}{32}$	9	$\frac{7}{16}$ " $\frac{7}{16}$	.35	.70
298	$\frac{1}{2}$ " $\frac{5}{8}$	$\frac{7}{8}$ " $1\frac{1}{16}$	$10\frac{1}{2}$	$\frac{1}{2}$ " $\frac{1}{2}$	.40	.80
299	$\frac{9}{16}$ " $\frac{5}{8}$	$\frac{31}{32}$ " $1\frac{1}{16}$	$10\frac{1}{2}$	$\frac{1}{2}$ " $\frac{1}{2}$	.43	.86
300	$\frac{9}{16}$ " $\frac{3}{4}$	$\frac{31}{32}$ " $1\frac{1}{4}$	12	$\frac{9}{16}$ " $\frac{9}{16}$	.45	.90
301	$\frac{5}{8}$ " $\frac{3}{4}$	$1\frac{1}{16}$ " $1\frac{1}{4}$	12	$\frac{9}{16}$ " $\frac{9}{16}$	.50	1.00
302	$\frac{5}{8}$ " $\frac{7}{8}$	$1\frac{1}{16}$ " $1\frac{7}{16}$	13	$\frac{9}{16}$ " $\frac{3}{4}$	.58	1.16
303	$\frac{3}{4}$ " $\frac{7}{8}$	$1\frac{1}{4}$ " $1\frac{7}{16}$	$13\frac{3}{4}$	$\frac{9}{16}$ " $\frac{3}{4}$	.65	1.30
304	$\frac{3}{4}$ " 1	$1\frac{1}{4}$ " $1\frac{5}{8}$	$14\frac{3}{4}$	$\frac{3}{4}$ " $\frac{3}{4}$	.75	1.50
305	$\frac{7}{8}$ " 1	$1\frac{7}{16}$ " $1\frac{5}{8}$	$15\frac{3}{4}$	$\frac{3}{4}$ " $\frac{3}{4}$	.80	1.60
306	$\frac{7}{8}$ " $1\frac{1}{8}$	$1\frac{7}{16}$ " $1\frac{13}{16}$	$16\frac{3}{4}$	$\frac{3}{4}$ " $\frac{15}{16}$	.90	1.80
307	1 " $1\frac{1}{8}$	$1\frac{5}{8}$ " $1\frac{13}{16}$	$17\frac{1}{2}$	$\frac{3}{4}$ " $\frac{15}{16}$	1.00	2.00
308	1 " $1\frac{1}{4}$	$1\frac{5}{8}$ " 2	$18\frac{1}{2}$	$\frac{3}{4}$ " $\frac{15}{16}$	1.12	2.24
309	$1\frac{1}{8}$ " $1\frac{1}{4}$	$1\frac{13}{16}$ " 2	$19\frac{1}{2}$	$\frac{15}{16}$ " $\frac{15}{16}$	1.25	2.50
310	$1\frac{1}{8}$ " $1\frac{3}{8}$	$1\frac{13}{16}$ " $2\frac{3}{16}$	$20\frac{1}{2}$	$\frac{15}{16}$ " $1\frac{1}{8}$	1.40	2.80
311	$1\frac{1}{4}$ " $1\frac{3}{8}$	2 " $2\frac{3}{16}$	$21\frac{1}{4}$	$\frac{15}{16}$ " $1\frac{1}{8}$	1.60	3.20
312	$1\frac{1}{4}$ " $1\frac{1}{2}$	2 " $2\frac{3}{8}$	$22\frac{1}{4}$	$\frac{15}{16}$ " $1\frac{1}{8}$	1.80	3.60
313	$1\frac{3}{8}$ " $1\frac{1}{2}$	$2\frac{3}{16}$ " $2\frac{3}{8}$	$23\frac{1}{4}$	$1\frac{1}{8}$ " $1\frac{1}{8}$	2.00	4.00
314	$1\frac{3}{8}$ " $1\frac{5}{8}$	$2\frac{3}{16}$ " $2\frac{9}{16}$	$24\frac{1}{4}$	$1\frac{1}{8}$ " $1\frac{3}{16}$	2.25	4.50
315	$1\frac{1}{2}$ " $1\frac{5}{8}$	$2\frac{3}{8}$ " $2\frac{9}{16}$	25	$1\frac{1}{8}$ " $1\frac{3}{16}$	2.50	5.00
316	$1\frac{1}{2}$ " $1\frac{3}{4}$	$2\frac{3}{8}$ " $2\frac{3}{4}$	26	$1\frac{1}{8}$ " $1\frac{3}{16}$	2.75	5.50
317	$1\frac{5}{8}$ " $1\frac{3}{4}$	$2\frac{9}{16}$ " $2\frac{3}{4}$	27	$1\frac{3}{16}$ " $1\frac{3}{16}$	3.00	6.00
318	$1\frac{5}{8}$ " $1\frac{7}{8}$	$2\frac{9}{16}$ " $2\frac{15}{16}$	28	$1\frac{3}{16}$ " $1\frac{3}{8}$	3.25	6.50
319	$1\frac{3}{4}$ " $\frac{7}{8}$	$2\frac{3}{4}$ " $2\frac{15}{16}$	29	$1\frac{3}{16}$ " $1\frac{3}{8}$	3.50	7.00
320	$1\frac{3}{4}$ " 2	$2\frac{3}{4}$ " $3\frac{1}{8}$	30	$1\frac{3}{16}$ " $1\frac{3}{8}$	4.00	8.00
321	$1\frac{7}{8}$ " 2	$2\frac{15}{16}$ " $3\frac{1}{8}$	31	$1\frac{3}{8}$ " $1\frac{3}{8}$	4.50	9.00
322	$1\frac{7}{8}$ " $2\frac{1}{4}$	$2\frac{15}{16}$ " $3\frac{1}{2}$	32	$1\frac{3}{8}$ " $1\frac{1}{2}$	5.00	10.00
323	2 " $2\frac{1}{4}$	$3\frac{1}{8}$ " $3\frac{1}{2}$	33	$1\frac{3}{8}$ " $1\frac{1}{2}$	5.75	11.50

15° ANGLE SINGLE END WRENCHES.

DROP FORGED OF STEEL.

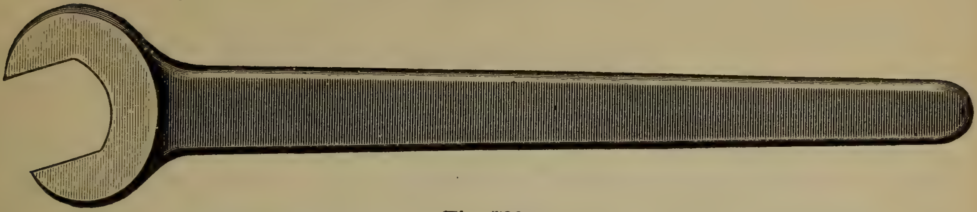


Fig. 728.

For United States Standard Nuts for Bolts from 1/8 inch to 2 3/4 inches diameter, inclusive. All Wrenches, either in forged state or finished, have Milled Openings.

No. of Wrench.	Size Bolts. U. S. Standard Nuts.	Milled Openings for U. S. Standard Nuts.	Extreme Length.	Thickness of Head.	Price each, in Forged State.	Price, each, in Finished State.
262	1/8	5/16	3	5/32	$0.08	$0.16
263	3/16	13/32	3 7/8	5/32	.09	.18
264	1/4	1/2	5	1/4	.10	.20
265	5/16	19/32	5 5/8	1/4	.12	.24
266	3/8	11/16	6 1/2	5/16	.14	.28
267	7/16	25/32	7 1/2	5/16	.17	.34
268	1/2	7/8	8 3/8	7/16	.20	.40
269	9/16	31/32	9 1/4	7/16	.25	.50
270	5/8	1 1/16	10	9/16	.32	.64
271	3/4	1 1/4	11 3/4	9/16	.40	.80
272	7/8	1 7/16	13 1/8	3/4	.50	1.00
273	1	1 5/8	14 7/8	3/4	.65	1.30
274	1 1/8	1 13/16	16 3/4	15/16	.85	1.70
275	1 1/4	2	18 1/2	15/16	1.10	2.20
276	1 3/8	2 3/16	20 1/4	1 1/8	1.40	2.80
277	1 1/2	2 3/8	22 1/4	1 1/8	1.75	3.50
278	1 5/8	2 9/16	25	1 3/16	2.10	4.20
279	1 3/4	2 3/4	28	1 3/16	2.50	5.00
280	1 7/8	2 15/16	31	1 3/8	3.00	6.00
281	2	3 1/8	34	1 3/8	3.50	7.00
282	2 1/4	3 1/2	37	1 1/2	4.50	9.00
283	2 1/2	3 7/8	40	1 1/2	6 00	12.00
284	2 3/4	4 1/4	44	1 5/8	8.00	16.00

COE'S WRENCHES. KNIFE HANDLE.

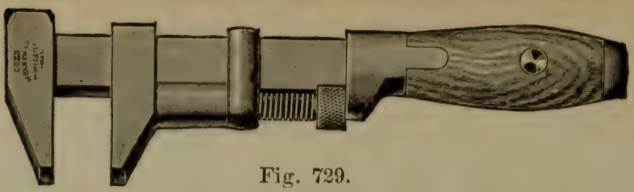


Fig. 729.

Size	Inches	6	8	10	12	15	18	21
Coe's Black Knife Handle, . .	per doz.	$ 9.00	$10.00	$12.00	$14.00	$24.00	$30.00	$36.00
" Polished Knife Handle . .	"	10.00	11.00	14.00	16.00	26.00	32.00	38.00
P. S. & W. Black Solid Handle .	"	9.00	10.00	12.00	14.00	24.00	30.00	36.00
" " Polished Solid Handle .	"	10.00	11.00	14.00	16.00	26.00	32.00	38.00

BEMIS & CALL COMBINATION WRENCHES.

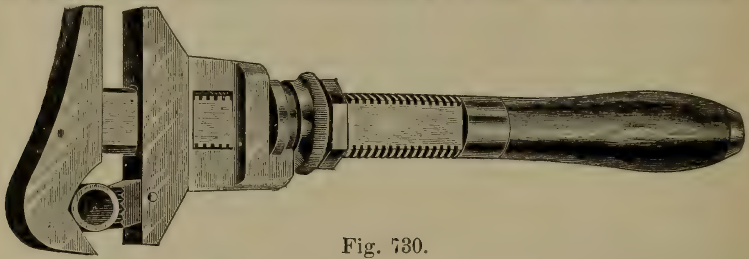


Fig. 730.

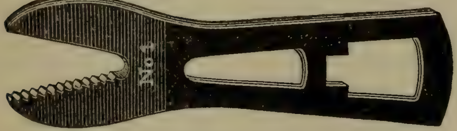
Bright, with Long Nut.

Inch . .	10	12	15	18
Per dozen	$25.25	28 50	40.50	72 00

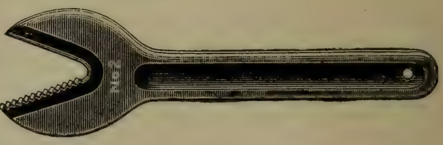
Bright, with Short Nut.

Inch . .	10	12	15	18
Per dozen	$23.00	26.00	37.00	66.00

ALLIGATOR WRENCHES.



No. 1.
Fig. 731.



No. 2.
Fig. 732.

No.	1	2	3	4	5	Twin.
Holds Pipe, inch . .	$\frac{1}{8}$ to $\frac{3}{8}$	$\frac{3}{8}$ to $\frac{3}{4}$	$\frac{1}{2}$ to $1\frac{1}{4}$	$1\frac{1}{4}$ to 2	2 to 3	$\frac{1}{8}$ to $\frac{3}{4}$
" Round Iron, inch	$\frac{1}{4}$ to $\frac{3}{4}$	$\frac{1}{2}$ to 1	$\frac{3}{4}$ to $1\frac{3}{8}$	$1\frac{1}{2}$ to $2\frac{1}{2}$	$2\frac{1}{4}$ to $3\frac{1}{2}$	$\frac{1}{4}$ to 1
Length, inch . . .	$5\frac{3}{4}$	10	16	22	27	10
Per dozen	$4 00	12.00	24.00	36.00	54.00	18.00

Pocket Wrenches, 4 inch, per dozen $3.00

BAXTER'S "S" WRENCHES.

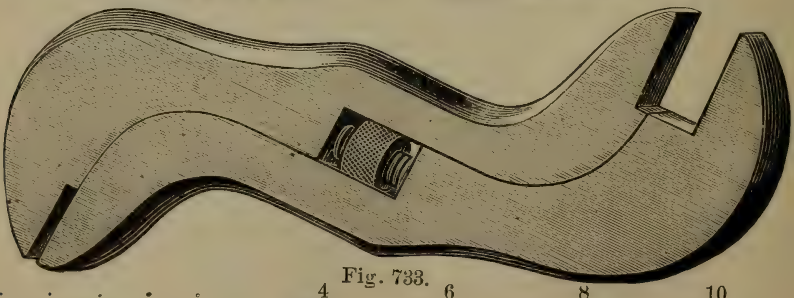


Fig. 733.

Inch	4	6	8	10	12
Per dozen	$6.00	9.00	12.00	18.00	24.00

Half dozen in a package.

STILLSON PIPE WRENCH.

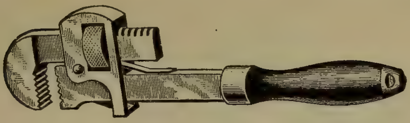


Fig. 734.

		6	8	10	14	18	24	36	48
Length, open, . . .	Inches	6	8	10	14	18	24	36	48
Takes Pipe from . . .	"	$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{1}{8}$ to 1	$\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{1}{4}$ to 2	$\frac{1}{4}$ to $2\frac{1}{2}$	$\frac{1}{2}$ to $3\frac{1}{2}$	1 to 5
Price, ...	Each	$2.00	$2.00	$2.25	$3.00	$4.00	$6.00	$12.00	$18.00
Jaws, ...	"	.67	.67	.75	1.00	1.33	2.00	4.00	6.00
Frames, ...	"	.25	.25	.33	45	.55	.65	.75	1.00
Nuts, ...	"	.20	.20	.27	.35	.42	.50	.65	.80

TRIMO PIPE WRENCH.

Length, open, . . .	Inches	6	8	10	14	18	24	36	48
Takes Pipe from . . .	"	$\frac{1}{8}$ to $\frac{1}{2}$	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{1}{8}$ to 1	$\frac{1}{4}$ to $1\frac{1}{2}$	$\frac{1}{4}$ to 2	$\frac{1}{4}$ to $2\frac{1}{2}$	$\frac{1}{2}$ to $3\frac{1}{2}$	1 to 5
Price, ...	Each	$2.00	$2.00	$2.25	$3.00	$4.00	$6.00	$12.00	$18.00
Jaws, ...	"	.67	.67	.75	1.00	1.33	2.00	4.00	6.00
Nuts, ...	"	.20	.20	.27	.35	.42	.50	.65	.80
Inserted Jaws, . . .	"	.25	.25	.33	.50	.55	.65	1.00	1.25
Frames, ...	"	.25	.25	.33	.45	.55	.65	.75	1.00

SAUNDERS' ONE-WHEEL AND ROLLER PIPE-CUTTER.

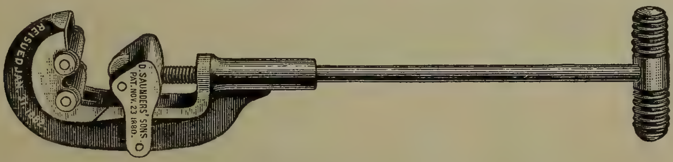

REISSUED JAN. 31, 1882
D. SAUNDERS' SONS.
PAT. NOV. 23, 1880.

Fig. 735.

All its parts can be duplicated,

No. 1 cuts pipe $\frac{1}{8}$ to 1 inch inclusive, ...	$3.00
" 2 " 1 to 2 "	4.50
" 3 " 2 to 3 "	11.00
" 4 " $2\frac{1}{2}$ to 4 "	18.00

	Cutter Wheels.	Block and Wheel.	Rollers.	Pins.
No. 1, ...	24 cts.	$1.25	24 cts.	10 cts.
" 2, ...	32 "	1.75	32 "	10 "
" 3, ...	60 "	2.75	50 "	15 "
" 4, ...	60 "	3.50	50 "	15 "

SAUNDERS' PATENT THREE-WHEEL PIPE-CUTTER.

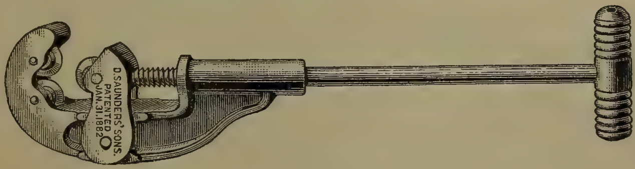

D. SAUNDERS' SONS.
PATENTED
JAN. 31, 1882.

Fig. 736.

No. 1 cuts pipe $\frac{1}{8}$ to 1 inch, ...	$3.00
" 2 " 1 to 2 "	4.50
" 3 " 2 to 3 "	11.00
" 4 " $2\frac{1}{2}$ to 4 "	18.00

Price of parts same as the one-wheel Cutter above.

BARNES' THREE-WHEEL PIPE CUTTER.

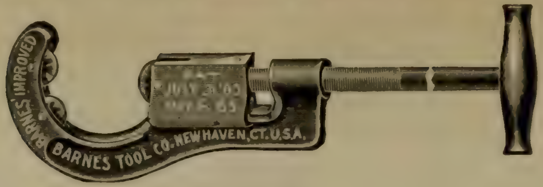

BARNES' IMPROVED
BARNES TOOL CO. NEWHAVEN, CT. U.S.A.

Fig. 737.

PRICES.

No. 1	Pipe Cutter,	$\frac{1}{8}$ to 1	inch	$4.50
" 2	" "	$\frac{1}{2}$ to 2	"	6.00
" 3	" "	$1\frac{1}{2}$ to 3	"	10.00
" 4	" "	$2\frac{1}{2}$ to 4	"	20.00
" 5	" "	4 to 6	"	30.00
" 6	" "	6 to 8	"	40.00
" 7	" "	9 to 12	"	50.00

Cutter Weels, No. 1 . .	$0.25
" " " 2 . .	.30
" " " 3 . .	.40
" " " 4 . .	.50
" " " 5, 6 or 7 .	.75

Wheel Taper Pins.

Nos. 1, 2 and 3, 10c. each, per doz.,	$1.00
Nos. 4, 5, 6 and 7, 18c. each, "	2.00

COMMON PIPE TONGS.

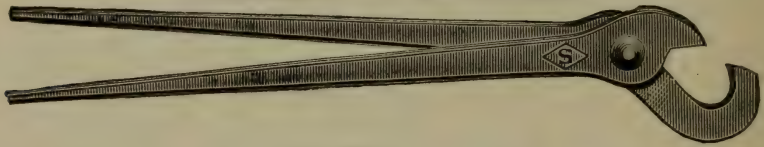


Fig. 738.

Size, inches .	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	5
Price, each .	.60	.65	.70	.75	.90	1.10	1.30	1.50	1.90	2.50	4.25	5.25	6.25	8.00

BROWN'S EXTENSION PIPE TONGS.

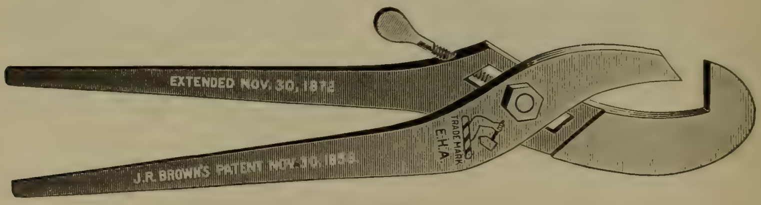


Fig. 739.

Number . . .	1	$1\frac{1}{2}$	2	3	4	5	6	7
Takes pipe from, ins.	$\frac{1}{8}$ to $\frac{3}{4}$	$\frac{3}{8}$ to 1	$\frac{1}{2}$ to $1\frac{1}{4}$	1 to 2	$1\frac{1}{2}$ to 3	$2\frac{1}{2}$ to 4	3 to 5	4 to 7
Price, each . .	$1.30	1.65	2.00	3.00	6.00	11.00	25.00	35.00

GAS PIPE AND BURNER PLYERS.

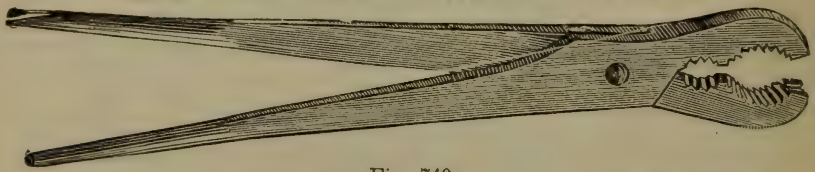


Fig. 740.

BURNER PLYERS.

All bright.	Per doz.
5 in. long, solid steel . .	$6.00
6 in. " " " . .	7.00
7 in. " " " . .	8.00

GAS PLYERS.

Half bright.	Per doz.
8 in. long, solid steel . .	$9.25
9 in. " " " . .	10.25
10 in. " " " . .	12.50
12 in. " " " . .	14.50
14 in. " " " . .	16.50

CHAMPION CHAIN PIPE WRENCH.

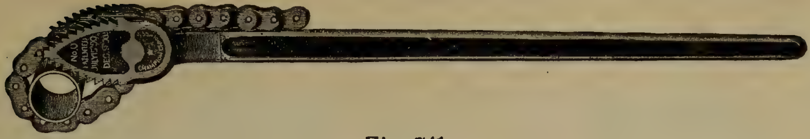


Fig. 741.

Size	No. 0.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Price, each	$2.50	3.50	5.50	7.50	11.00	18.00
Capacity	⅛ to ¾ in.	⅛ to 1½ in.	¼ to 2½	¾ to 6 in.	1½ to 8 in.	2 to 12 in.
Length	12½ in.	19½ in.	28 in.	38¼ in.	50½ in.	65 in.
Weight	1¾ lbs.	4¾ lbs.	8¾ lbs.	16 lbs.	29 lbs.	49 lbs.
Extra Chain, each	$ .75	$1.00	$1.50	$2.50	$4.00	$6.00
Extra Jaws, pair	1.00	1.75	2.75	4.00	5.50	7.50

THE VULCAN PATENT DROP-FORGED CHAIN PIPE WRENCH.

For Gripping, Turning or Holding Pipe, Bolts, Bars, Shafts, etc., from ⅛ to 18 Inches Diameter.

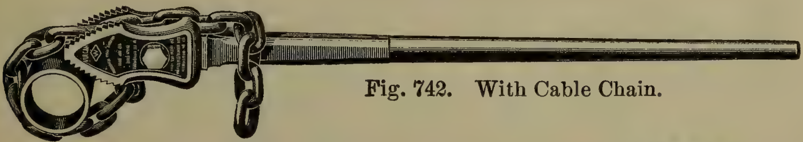


Fig. 742. With Cable Chain.

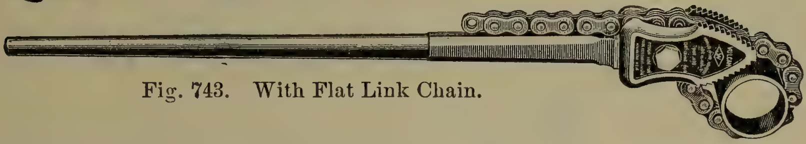


Fig. 743. With Flat Link Chain.

Size	No. 10	No 11.	No. 12.	No. 13.	No. 13½.	No. 14	No. 15.	No. 16.
Price, with flat link chain, each	$2.50	3.50	5.00	7.00	9.00	11.00	18.00	40.00
Price, with cable chain, each	$2.25	3.25	4.50	6.25	7.75	9.50	16.00	40.00
Capacity, size pipe	⅛ to ¾ in.	⅛ to 1½ in.	¼ to 2½ in.	¾ to 4 in.	1 to 6 in.	1½ to 8 in.	2 to 12 in.	4 to 18 in.
Length, over all	13¾ in.	20 in.	27 in.	37 in.	44½ in.	50½ in.	64½ in.	87 in.
Weight	1¾ lbs.	4¾ lbs.	8¾ lbs.	16 lbs.	21 lbs.	29 lbs.	49 lbs.	130 lbs.
Extra flat link chain, each	$ .75	1.00	1.50	2.50	3.25	4.00	6.00	13.00
Extra cable chain, each	$ .50	.75	1.00	1.75	2.00	2.50	4.00	13.00
Extra jaws, pair	$1.00	1.75	2.75	4.00	4.75	5.50	7.50	16.00
Length, flat link chain	9½ in.	13½ in.	17½ in.	22½ in.	31 in.	39 in.	54½ in.	74½ in.
Length, cable chain	9¾ in.	14½ in.	18 in.	27 in.	33½ in.	42 in.	57 in.	76 in.
Breaking strain, flat link chain	3 000 lbs.	5,500 lbs.	9,500 lbs.	11,000 lbs.	13,000 lbs	15,000 lbs.	20,000 lbs.	40,000 lbs.
Breaking strain, cable chain	1,200 lbs.	4,000 lbs.	6,000 lbs.	10,500 lbs.	12,500 lbs.	15,000 lbs.	19,000 lbs.	40,000 lbs.
Size iron in cable chain	3-16 in.	9-32 lbs.	11-32 in.	7-16 in.	15-32 in.	33-64 in.	37-64 in.	13-16 in.

No. 16 has ring on end of handle for use with tackle. All parts are interchangeable; repairs can always be had.

ROBBIN'S CHAIN PIPE WRENCH.

Nos.	2	3	4	5	6
Length of Lever, feet	2¾	3	4	5	6
Takes Pipe from (inches)	1 to 2	1¼ to 4	2 to 6	2½ to 8	4 to 10
Price	$5.50	6.25	9.00	12.50	16.00

PIPE VISES.

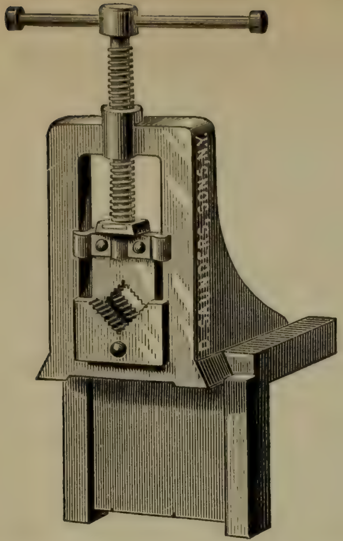

D. SAUNDERS, SONS, N.Y.

Fig. 744.

PIPE VISE WITH ANGLE PLATE.

No. 1. To hold pipe from ⅛ to 2 inches diameter . . .	$12.00
No. 2. To hold pipe from ½ to 3 inches diameter . . .	16.00

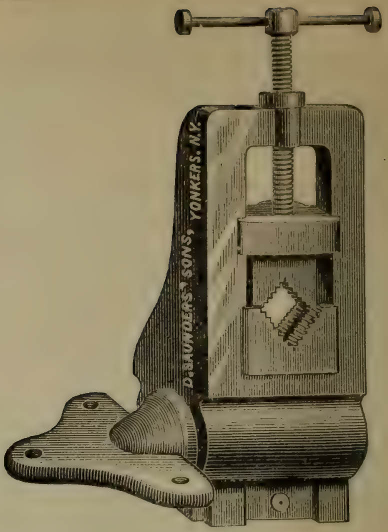

D. SAUNDERS' SONS, YONKERS, N.Y.

Fig. 745.

IMPROVED PIPE VISE.

No. 1. To hold pipe from ⅛ to 2 inches diameter . . .	$15.00
No. 2. To hold pipe from ½ to 3 inches diameter . . .	22.00
No. 3. To hold pipe from ¼ to 4 inches diameter . . .	34.00

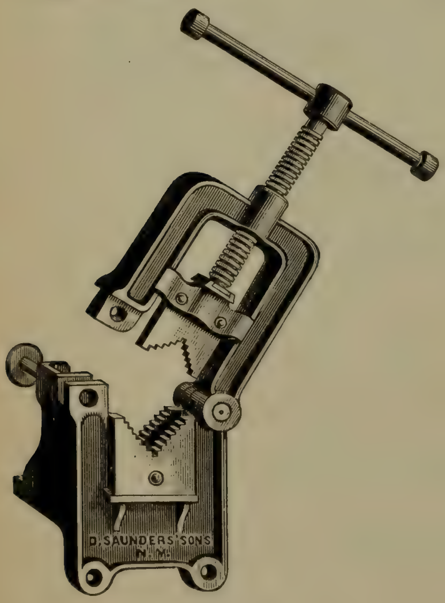


Fig. 746.

MALLEABLE IRON IMPROVED HINGE OR OPEN JAW PIPE VISE.

No. 1.	Holds	⅛ to 2 in. .	Price,	$10.00
No. 2.	"	¼ to 3 in. .	"	13.00
No. 3.	"	½ to 4 in. .	"	24.00
No. 4.	"	2 to 6 in. .	"	30.00
No. 5.	"	2½ to 8 in.	"	45.00

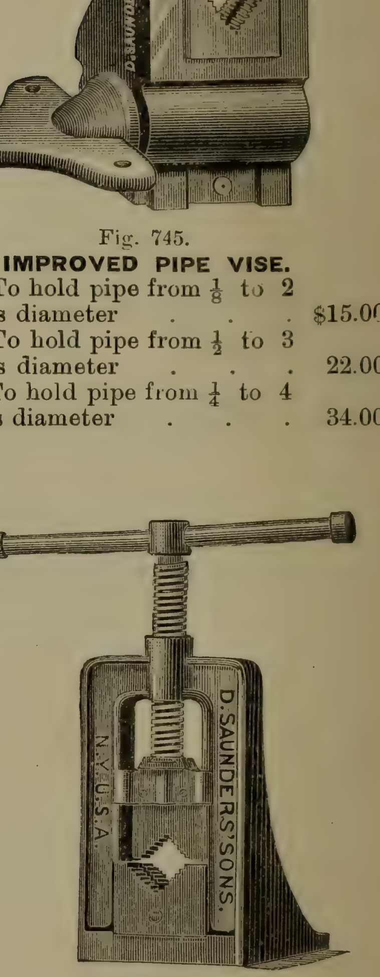

D. SAUNDERS' SONS.
N.Y. U.S.A.

Fig. 747.

MALLEABLE IRON PIPE VISES.

	Holds pipe.	Weight.	Price.
No. 1 .	⅛ to 2 in.	15 lbs.	$8.00
No. 2	¼ to 3 in.	30 lbs.	12.00

THE BURNET COMPANY, NEW YORK.

PARKER'S PATENT COMBINATION PIPE VISES.

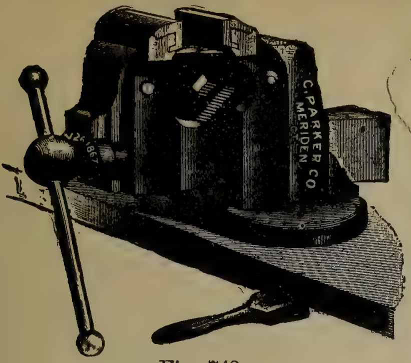


Fig. 748.

No. 87. Round and Pipers' Jaws, weight 41 lbs. For holding 2 inch pipe and under. Length of Jaws, 3⅝ inches . . . Each, $16.00

No. 88. Round and Pipers' Jaws, weight 59 lbs. For holding 3 inch pipe and under. Length of Jaws, 4⅛ inches . . . Each, $20.00

No. 288½. Round and Pipers' Jaws, weight 105 lbs. For holding 4 inch pipe and under. Length of Jaws, 4¾ inches . . . Each, $28.00

No. 289½. Round and Pipers' Jaws, weight 155 lbs. For holding 6 inch pipe and under. Length of Jaws, 5⅜ inches . . . Each, $35.00

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

WITHOUT PARKER'S IMPROVEMENTS.

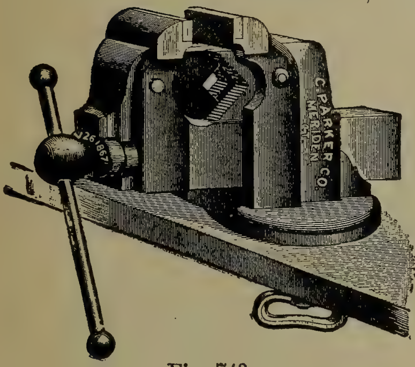


Fig. 749.

SWIVEL BOTTOM.

No. 187. Round and Pipers' Jaws, weight 41 lbs. For holding 2 inch pipe and under Each, $16.00

No. 188. Round and Pipers' Jaws, weight 59 lbs. For holding 3 inch pipe and under Each, $20.00

No. 188½. Round and Pipers' Jaws, weight 94 lbs. For holding 4 inch pipe and under. Length of Jaws, 4¾ inches . . . Each, $28.00

No. 189½. Round and Pipers' Jaws, weight 141 lbs. For holding 6 inch pipe and under. Length of Jaws, 5⅜ inches . . . Each, $35.00

The Steel Faces of these Vises are welded on, and not fittted and renewable as on Nos. 288½ and 289½.

PARKER'S PATENT VISES.

WITH INTERCHANGEABLE JAWS.

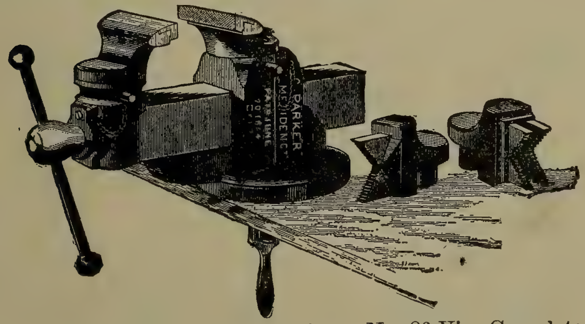

C. PARKER MERIDEN CT.

Fig. 750. Above illustration shows No. 86 Vise Complete.

No. 81.	Same as illustration, but with Round Jaws only . . . Both Jaws Swivel. Weight, 60 lbs.	Each, $12.50
No. 82.	Same as illustration, but with Pipers' Jaws only . . . Both Jaws Swivel. Weight, 63 lbs.	Each, 12.50
No. 86.	See illustration . . . . Both Jaws Swivel. Weight, 76 lbs.	Each, 14.75
No. 83.	Same as illustration, and has Coach Makers' Jaws in addition to Round and Pipers' Jaws . . . . Both Jaws Swivel. Weight, 91 lbs.	Each, 16.00

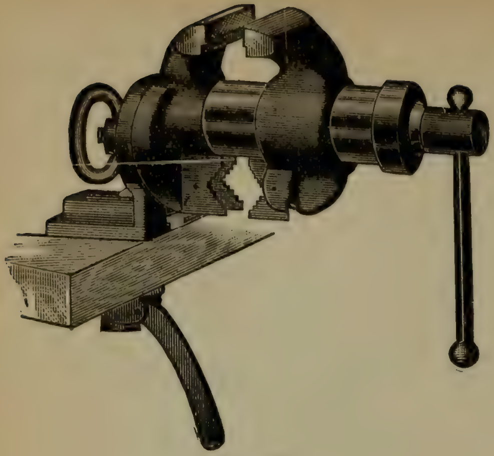


Fig. 751.

UNIVERSAL COMBINATION PIPE AND METAL WORKERS' VISE.

No. 102. Universal Combination Pipe and Metal Workers' Vise, 3-inch length of jaw, opens 4¼ inches, and will take pipe from ⅜ to 2 inches in diameter; weight, 52 lbs. Price, $12.00.

No. 103. 4½-inch length of jaw, opens 4¼ inches and will take pipe from ⅜ to 3 inches in diameter; weight, 80 lbs. Price, $15.00.

PARALLEL BENCH VISE.

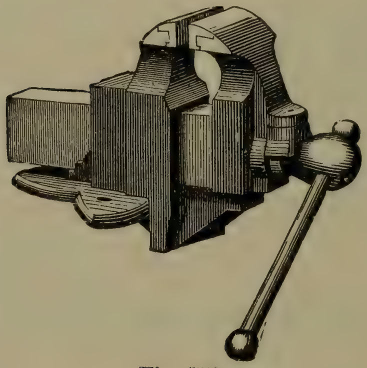


Fig. 752.

FIXED.

No.	Length of Jaw.	Weight.	
0	3 inches	25½ lbs. . . .	$5.50
1	3½ "	31½ " . . .	6.50
2	4 "	41 " . . .	8.50
3	4½ "	52½ " . . .	10.75
4	5 "	93 " . . .	16.00
5	6 "	113½ " . . .	23.75
6	7 "	184 " . . .	34.50

SWIVEL.

No.	Length of Jaw.	Weight.	
00	2 inches	7½ lbs. . . .	$4.00
0	3 "	31½ " . . .	6.25
1	3½ "	38½ " . . .	8.00
2	4 "	48 " . . .	10.00
3	4½ "	61 " . . .	13.25
4	5 "	104½ " . . .	18.50
5	6 "	129 " . . .	26.00
6	7 "	194 " . . .	36.00

Fig. 753. NEW STYLE CHANNEL BAR BENCH VISE.

FIXED.

No.	Length of Jaw.	Weight.	
20	2 inches	7 lbs. . . .	$4.00
25	2½ "	12 " . . .	5.00
30	3 "	21½ " . . .	6.25
35	3½ "	30½ " . . .	7.00
40	4 "	46½ " . . .	9.00
45	4½ "	58 " . . .	11.75
50	5 "	88 " . . .	16.25
55	5½ "	110½ " . . .	20.00

SWIVEL.

No.	Length of Jaw.	Weight.	
20	2 inches	8 lbs. . . .	$4.50
25	2½ "	13 " . . .	5.75
30	3 "	24 " . . .	7.00
35	3½ "	34 " . . .	8.25
40	4 "	50 " . . .	10.75
45	4½ "	63 " . . .	14.00
50	5 "	96 " . . .	19.25
55	5½ "	118½ " . . .	23.50

PRICE LIST OF REPAIRS FOR PARKER VISES.

No. of Vice.	Slide.	Back Jaw.	Screw.	Spring.	Nut.	Steel Jaws Each.	Bench Bolt.	Bench Washer	Swivel Pin.	Swivel Nut.	Swivel Bolt.	Base Bolt.	Bench Wrench	Bench Flange.	Bench Nut.	Bench Swivel.
A	1.25	1.50	1.50	35	35											
B	1.25	1.75	1.50	35	35											
C	1.50	2.00	1.50	35	35											
D	1.75	2.50	1.75	35	35											
E	2.50	3.50	2.00	35	35											
F	3.50	4.50	2.00	35	35											
G	5.50	6.50	2.00	35	35											
AA	1.25	1.50	1.50	35	35	......	......	25	......	......	......	......	25	25	25	
BB	1.25	1.75	1.50	35	35	......	......	25	......	......	......	......	25	30	25	
CC	1.50	2.00	1.50	35	35	......	......	25	......	......	....	......	25	50	25	
DD	1.75	2.50	1.75	35	35	......	......	25	......	......	......	......	25	50	25	
EE	2.50	3.50	2.00	35	35	......	......	25	......	......	......	......	35	50	35	
FF	3.50	4.50	2.00	35	35	......	......	25	......	....	......	......	35	50	35	
GG	5.50	6.50	2.00	35	35	......	......	......	......	......	......	......	35	50	35	
000X	2.00	3.00	1.50	35	35	50										
1X	2.50	3.50	1.50	35	35	50										
2X	3.00	4.50	1.50	35	35	50										
3X	4.50	5.00	1.75	35	35	50										
4X	6.00	8.50	2.00	35	35	50										
5X	10.75	13.25	2.00	......	50	65										
21X	2.00	3.00	1.50	35	35	50	25	25	25	25	25	25	25	25	25	1.00
22X	3.50	3.50	1.50	35	35	50	25	25	25	25	25	25	25	50	25	1.00
23X	3.75	5.00	1.50	35	35	50	25	25	25	25	25	25	25	50	25	1.00
24X	4.25	6.00	1.75	35	40	50	25	25	25	50	50	50	25	50	25	1.25
25X	6.75	12.00	2.00	35	40	50	25	25	25	50	50	50	25	50	25	1.25
26X	12.75	15.00	2.00	......	40	50	..	......	25	50	50	50				
19	1.50	2.00	.75	35	35	......	25	10	......	......	......	......	25	25	25	
20	1.75	2.25	.75	35	35	......	25	10	......	......	......	......	25	25	25	
21	2.50	3.00	1.50	35	35	50	25	25	......	......	......	......	25	25	25	
22	3.00	3.50	1.50	35	35	50	25	25	......	......	......	....	25	50	25	

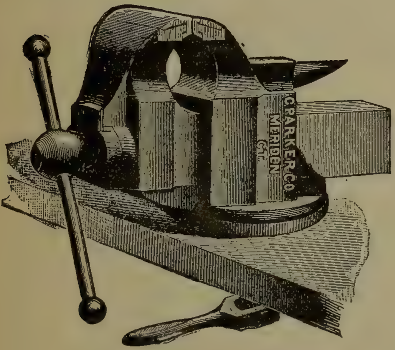


Fig. 754.

PARKER'S PATENT PARALLEL SWIVEL VISES.

Parker's Patent Cast-steel Anvil.

Round Jaws. Swivel.

No.	Weight.	Length of Jaws.	Each.
19	8 lbs.	2 inches	$4.00
20	8½ lbs.	2¼ inches	5.00
21	23 lbs.	3⅛ inches	7.00
22	35 lbs.	3⅝ inches	8.75

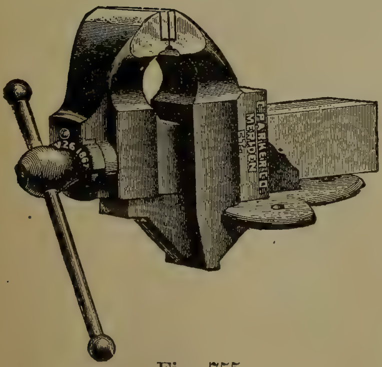


Fig 755.

PARKER'S PATENT FILERS' VISES.

No. 42. Length of Jaws, 4 inches. Weight, 33 lbs.
Each $7.25
No. 42½ Length of Jaws, 3¼ inches. Weight, 30 lbs.
Each $6.75

SWIVEL FILERS' VISE.

No. 44. Length of Jaws, 4 inches. Weight, 37 lbs.
Each $8.75

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

PARKER'S PATENT PARALLEL VISES.

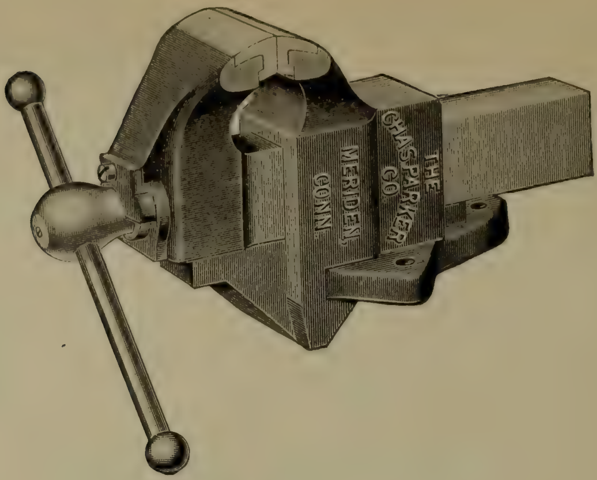


Fig. 756.

No.	Weight.	Length of Jaws.	Vise Opens.	Price Each.
000X.	28 lbs.	3¼ inches	4¼ inches	$6.25
1X.	45 "	3¾ "	5½ "	7.00
2X.	58 "	4¼ "	6½ "	9.00
3X.	74 "	4¾ "	8¼ "	11.75
4X.	104 "	5½ "	9½ "	16 25
5X.	134 "	6¼ "	10½ "	24.00

PARKER'S PATENT SWIVEL VISES.

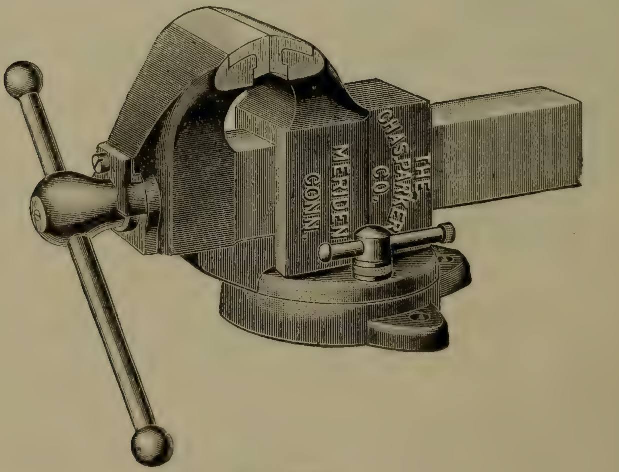


Fig. 757.

No.	Weight.	Length of Jaws.	Vise Opens.	Price Each.
21X.	32 lbs.	3¼ inches	4¼ inches	$7.00
22X.	50 "	3¾ "	5½ "	8.75
23X.	65 "	4¼ "	6½ "	11.00
24X.	87 "	4¾ "	8¼ "	14.50
25X.	130 "	5½ "	9½ "	20.50
26X.	160 "	6¼ "	10½ "	30.00

The steel faces of these Vises are milled and fitted to the Jaws, and are renewable at a small cost.

PARKER'S PARALLEL VISES, WITHOUT PARKER'S IMPROVEMENTS.

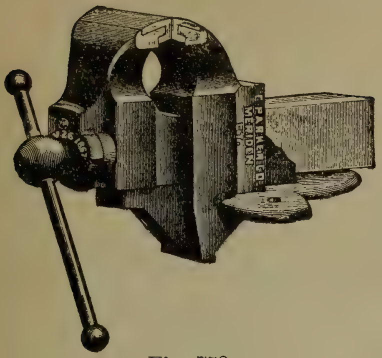

C. PARKER CO. MERIDEN CT.

Fig. 758.

They are equal in strength to any Vise in market, with the exception of Parker's first quality. For the purchaser's protection, these Vises are *painted green* so they can be easily distinguished from the regular Vises.

No.	Length of Jaws.	Weight.	Each.
0000	3¼ inches	23 lbs.	$5.50
100	3⅝ "	31½ "	6.50
200	4⅛ "	41½ "	8.50
300	4¾ "	59½ "	10.75
400	5⅜ "	83 "	16.00
500	6⅛ "	120 "	23 75

The Steel Faces of these Vises are Milled and fitted to the Jaws and are renewable at a trifling cost.

PARKER'S SWIVEL VISES, WITHOUT PARKER'S IMPROVEMENTS.

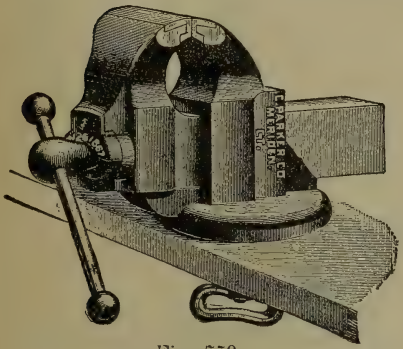

C. PARKER CO. MERIDEN CT.

Fig. 759.

No.	Length of Jaws.	Weight.	Each.
2000	2¼ inches	8½ lbs.	$4.00
2100	3⅛ "	23 "	6.25
2200	3⅝ "	35 "	8.00
2300	4⅛ "	48 "	10.00
2400	4¾ "	63½ "	13.25

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

PARKERS PATENT PARALLEL VICTOR VISES.

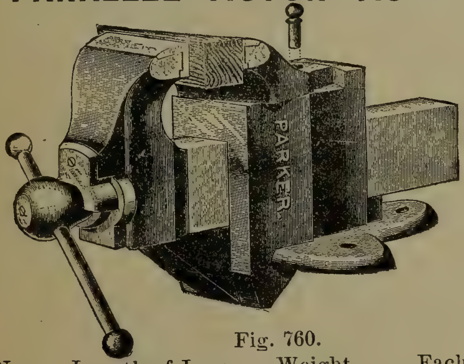


Fig. 760.

PARKER'S PATENT SWIVEL VICTOR VISES.

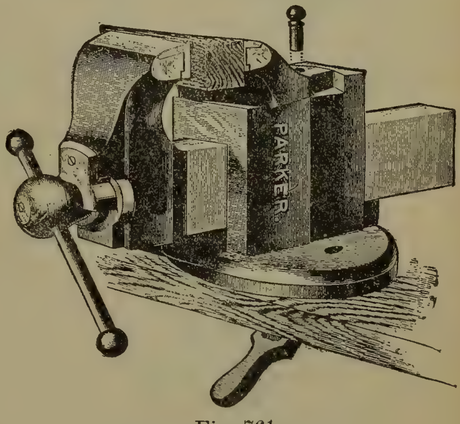


Fig. 761.

No.	Length of Jaws.	Weight.	Each.
370	3¼ inches	25 lbs.	$6.50
371	3⅝ "	39 "	7.00
372	4½ "	57 "	10.00
373	5 "	73 "	14.00
374	5½ "	98 "	17.00
375	6¼ "	150 "	24.00

No.	Length of Jaws.	Weight.	Each.
270	3¼ inches	30 lbs.	$7.00
271	3⅝ "	42 "	8.50
272	4½ "	60 "	12.50
273	5 "	78 "	16.00
274	5½ "	110 "	19.00
275	6¼ "	165 "	27.00

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

PRENTISS' PATENT SELF-ADJUSTING JAW VISES.

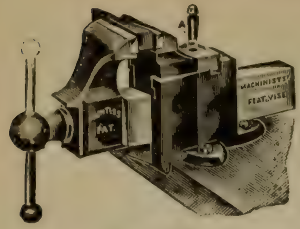


Fig. 762.

MACHINISTS' STATIONARY BOTTOM VISES.

No.	Width Jaw.	Opens.	Weight.	List Price.
1	2⅝ in.	3½ in.	13½ lbs.	$5.50
2	3½ "	4¾ "	28 "	7.00
2½	4 "	5¼ "	41 "	9.00
3	4½ "	6 "	54 "	10.50
4	5¼ "	8 "	96 "	17.00
5	6 "	9 "	146 "	24.00
6	7 "	11 "	184 "	30.00

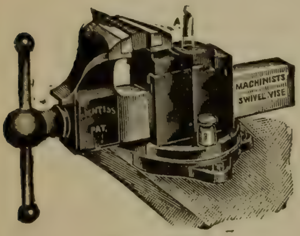


Fig. 763.

MACHINISTS' PATENT SWIVEL BOTTOM VISES.

No.	Width Jaw.	Opens.	Weight.	List Price.
18	2⅝ in.	3½ in.	17 lbs.	$6.75
19	3½ "	4¾ "	32 "	8.50
19½	4 "	5¼ "	46 "	10.50
20	4½ "	6 "	65 "	12.50
21	5¼ "	8 "	109 "	19.00
22	6 "	9 "	168 "	27.00
23	7 "	11 "	207 "	35.00

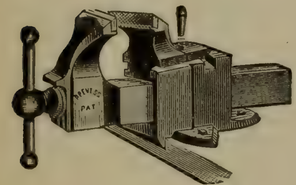

PRENTISS PAT.

Fig. 764.

FILERS' STATIONARY BOTTOM VISE.

No.	Width Jaw.	Opens.	Weight.	List Price.
42	4¼ in.	5¼ in.	42 lbs.	$8.00

Rough-cut or smooth jaws, as ordered.

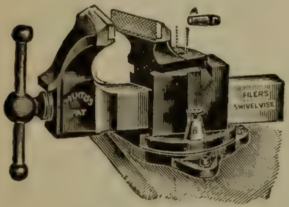


Fig 765

FILERS' PATENT SWIVEL BOTTOM VISE.

No.	Width Jaw.	Opens.	Weight.	List Price.
47	4¼ in.	5¼ in.	47 lbs.	$10.00

Rough-cut or smooth jaws, as ordered.

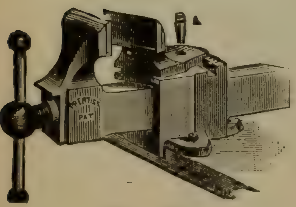

PRENTISS PAT.

Fig 766.

COACH-MAKERS' STATIONARY BOTTOM VISE.

No.	Width Jaw.	Opens.	Weight.	List Price.
12	3½ in.	7 in.	30 lbs.	$8.00
10	4½ "	9½ "	59 "	11.00

Jaws are finished perfectly smooth

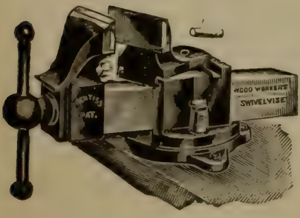


Fig. 767.

COACH-MAKERS' PATENT SWIVEL BOTTOM VISE.

No.	Width Jaw.	Opens.	Weight.	List Price.
27	3½ in	7 in.	34 lbs.	$9.50
26	4½ "	9½ "	67 "	13.00

Jaws are finished perfectly smooth.

NEW "BULL DOG" VISES.

MACHINISTS' SOLID JAW, FIG. 768, STATIONARY BOTTOM, PARALLEL VISE.

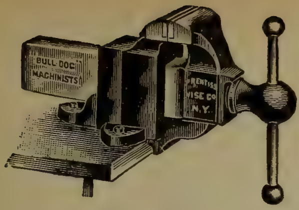


Fig. 768.

No.	Width Jaw.	Opens.	Weight.	Price.
50	3¼ in.	4 in.	22 lbs.	$6.00
51	3⅝ "	5 "	28 "	7.00
52	4⅛ "	5½ "	42 "	8.50
53	4⅝ "	6¼ "	52 "	10.00
54	5 "	7 "	72 "	13.00
55	5½ "	8½ "	100 "	18.50
56	6 "	9½ "	135 "	25.00

MACHINISTS' SOLID JAW, FIG. 769, SWIVEL BOTTOM, PARALLEL VISE.

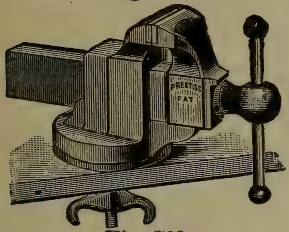


Fig. 769.

No.	Width Jaw.	Opens.	Weight.	Price.
90	3¼ in.	4 in.	28 lbs	$7.50
91	3⅝ "	5 "	36 "	8.75
92	4⅛ "	5½ "	52 "	10.50
93	4⅝ "	6¼ "	64 "	12.50
94	5 "	7 "	85 "	16.00
95	5½ "	8½ "	115 "	22.00
96	6 "	9½ "	155 "	30.00

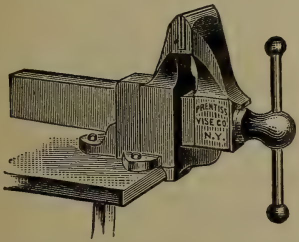

PRENTISS VISE CO N.Y.

Fig. 770.

COACH-MAKERS' SOLID JAW, FIG. 770, STATIONARY BOTTOM, PARALLEL VISE.

No.	Width Jaw.	Opens.	Weight.	Price.
59	4¼ in.	9 in.	48 lbs.	$9.50

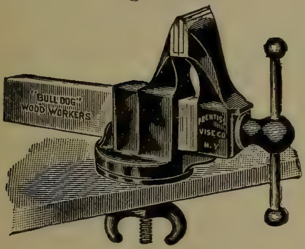


Fig. 771.

COACH-MAKERS' SOLID JAW, FIG. 771, SWIVEL BOTTOM, PARALLEL VISE.

No.	Width Jaw.	Opens.	Weight.	Price.
99	4¼ in.	9 in.	58 lbs.	$11.50

NEW STEEL (CHANNEL) BAR FILERS' VISES.

The Wrought Steel (Channel) Sliding Bar renders it possible to construct this Vise with the Highest Jaws and Largest Throat Opening of any Vise ever before offered, thus holding the largest work. Rough-cut or Smooth Jaws, as ordered.

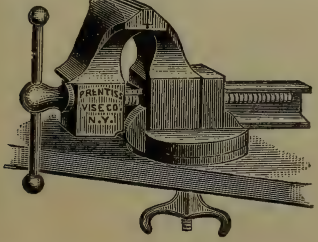

PRENTISS VISE CO. N.Y.

Fig. 772.

SWIVEL BOTTOM FILERS' VISE.

No.	Width Jaw.	Opens.	Weight.	Price.
48	4 in.	6 in.	45 lb.	$8.00

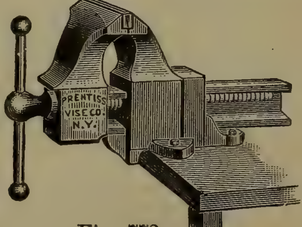

PRENTISS VISE CO. N.Y.

Fig. 773.

STATIONARY BOTTOM FILERS' VISE.

No.	Width Jaw.	Opens.	Weight.	Price.
43	4 in.	6 in.	37 lbs.	$7.00

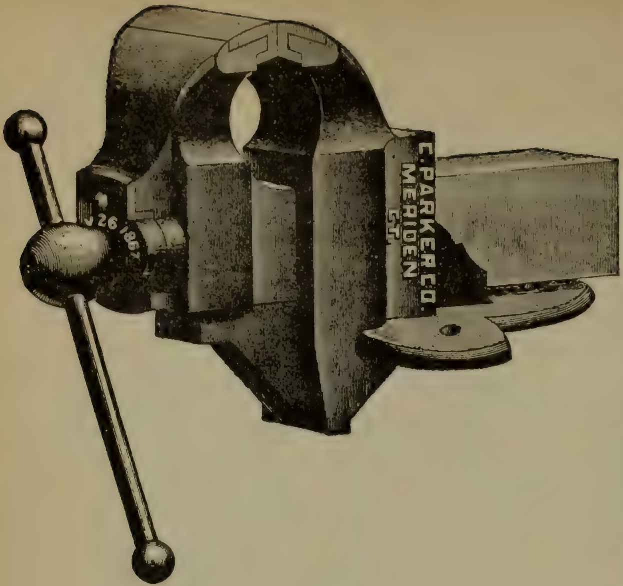


Fig. 774.

PARKER'S HEAVY RAILWAY VISE.

This vise is specially adapted for use by Railways and Machine Shops; requiring a trusty tool for heavy work.

STATIONARY BOTTOM.

No. 600. Length of Jaws, 8⅛ inches; Weight, 240 lbs.; each, $45.00.

SWIVEL BOTTOM.

No. 160. Length of Jaws, 8⅛ inches; Weight, 250 lbs.; each, $50.00. Opens 12½ inches.

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

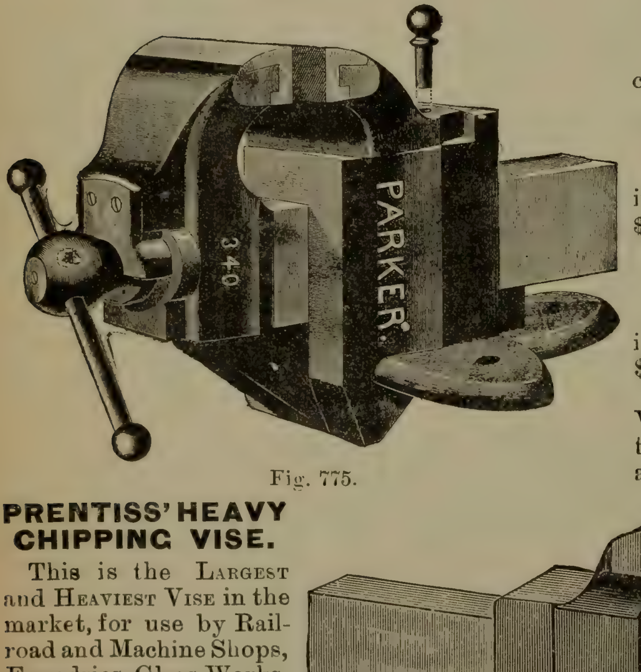


Fig. 775.

PARKER'S PATENT PARALLEL VICTOR VISES.

For Extra Heavy Work.

For use of Railroads, Machine Shops, Car Builders, etc.

STATIONARY BOTTOM SWIVEL BACK JAWS.

No. 340. Length of Jaws, 7½ inches; Weight, 185 lbs.; each, $30.00.

SWIVEL BOTTOM SWIVEL BACK JAWS.

No. 240. Length of Jaws, 7½ inches; Weight, 200 lbs.; each, $35.00. Opens 12 inches.

The Steel Faces of these Vises are Milled and fitted to the Jaws, and are renewable at a trifling cost.

PRENTISS' HEAVY CHIPPING VISE.

This is the Largest and Heaviest Vise in the market, for use by Railroad and Machine Shops, Foundries, Glass Works, Mills and large Manufactories.

No. 58. 8½ inch Jaws.
Opens 12 inches.
Weight, 275 lbs.
Price, $50.00.

Swivel Bottom Attachment for this Vise, $5.00 extra.

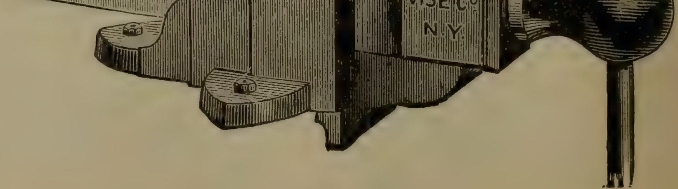


Fig. 776.

VULCAN VISES.

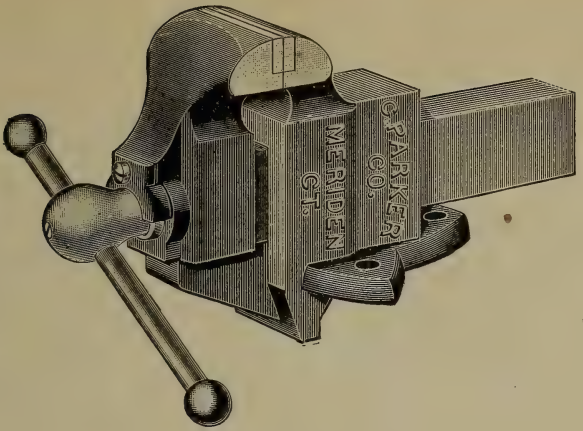

C. PARKER CO.
MERIDEN CT.

Fig. 777.

Solid Steel Faced Jaws. Extra Strong Slide and Screw.

Designed to supply the requirements for a Strong, Durable, Medium Priced Vise.

PATENT PARALLEL STATIONARY VISES.

No	Weight.	Vise Opens.	Length of Jaws.	Each.
A.	25 lbs.	4½ in.	3¼ in.	$6.00
B.	28 "	5 "	3⅝ "	7.00
C.	46 "	5½ "	4⅛ "	8.50
D.	60 "	6½ "	4⅝ "	10.00
E.	74 "	7 "	5 "	13.00
F.	100 "	8½ "	5½ "	18.50
G.	135 "	9½ "	6 "	25.00

PATENT PARALLEL SWIVEL VISES.

No.	Weight.	Vise Opens.	Length of Jaws	Each.
A. A.	28 lbs.	4½ in.	3¼ in.	$7.50
B. B.	37 "	5 "	3⅝ "	8.75
C. C.	52½ "	5½ "	4⅛ "	10.50
D. D.	66 "	6½ "	4⅝ "	12 50
E. E.	86 "	7 "	5 "	16.00
F. F.	115 "	8½ "	5½ "	22.00
G. G.	156 "	9½ "	6 "	30 00

PARKER'S OVAL SLIDE VISES.

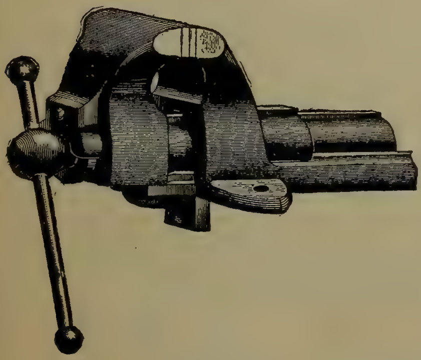


Fig. 778.

No.	Weight.	Jaws.	Each.
30.	8½ lbs.	2⅝ inches long.	$2 50
31.	13 "	3 " "	3.00
32.	19 "	3¼ " "	4 25
33.	22 "	3½ " "	4.75
34.	28 "	4 " "	6.50
35.	35 "	4¾ " "	9 50
36.	62 "	5¼ " "	12.00

DOUBLE SCREW PARALLEL LEG VISE.

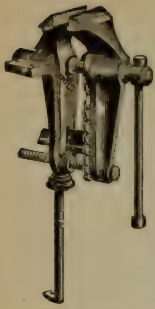


Fig. 779.

Fully Warranted against Breakage of any part, and of such superior material and construction that constant use for years will not produce any appreciable wear. The cut fully illustrates its action. It is really the old-fashioned Leg Vise, but made Parallel by causing the lower end of the front jaw to have the same movement in and out with the upper part, instead of opening on a hinge, thus always bringing a Square Pull on the Thread of the back jaw, solid and immovable.

No.	Weight about	Jaws.	Screws.	Lever.	Opens.	Price.
*2	65 lbs.	4½ in. x 1 in.	1⅛ in. diam.	13 in. long.	5½ in.	$10.50
3	90 "	5¼ " " 1⅛ in.	1¼ " "	16 " "	6½ "	16.00
4	120 "	6¼ " " 1¼ in.	1½ " "	19 " "	7½ "	20.50
5	150 "	7 " " 1½ in.	1¾ " "	24 " "	9 "	27.00
6	160 "	8 " " 1½ in.	1¾ " "	26 " "	10 "	30.00

*Note.—Leg for No. 2 is unnecessary, therefore omitted.

PATENT SOLID BOX LEG VISES.

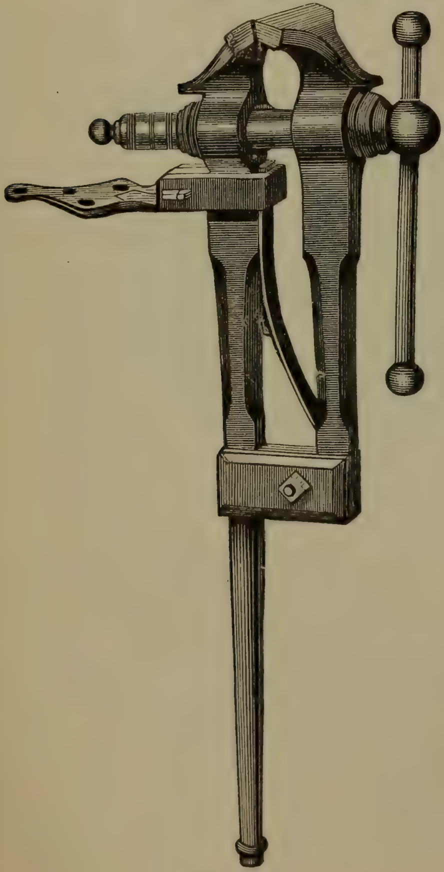


Fig. 780

No.		Weight.		Size of Jaw.		
35	Vises	35	lbs. each	3¾	inch	$8.00
40	"	40	"	4	"	9.00
45	"	45	"	4¼	"	10.00
50	"	50	"	4½	"	11.00
55	"	55	"	4¾	"	12.00
60	"	60	"	5	"	13.00
65	"	65	"	5	"	14.00
70	"	70	"	5¼	"	15.00
75	"	75	"	5¼	"	16.00
80	"	80	"	5½	"	17.50
85	"	85	"	5½	"	18.50
90	"	90	"	5¾	"	20.00
95	"	95	"	5¾	"	21.00
100	"	100	"	6	"	22.00
105	"	105	"	6	"	23.00
110	"	110	"	6	"	24.00
115	"	115	"	6	"	25.00
120	"	120	"	6½	"	26.00
125	"	125	"	6½	"	27.50
130	"	130	"	6½	"	29.00
135	"	135	"	6½	"	31.50
140	"	140	"	7	"	33.00
145	"	145	"	7	"	35.00
150	"	150	"	7	"	36.00
160	"	160	"	7¼	"	41.50
170	"	170	"	7¼	"	44.50
180	"	180	"	7½	"	47.00
190	"	190	"	7¾	"	53.00
200	"	200	"	8	"	56.00

With Swivel Attachment.

List same as regular S. B. Vises, adding $1.00 net on each Vise for Swivel attachment.

GRINDSTONES MOUNTED ON WOOD FRAMES.

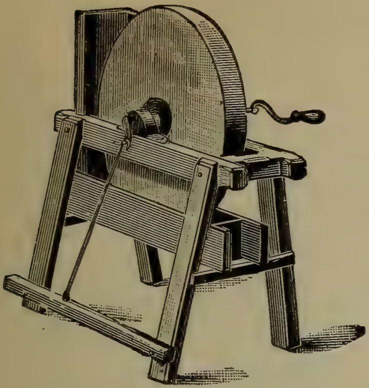


Fig 781.

SPECIAL.

Mounted on Heavy Hardwood Frames.

50 lbs.,	18	inch diameter,	each	$5.50
60 "	20	" "	"	5.75
80 "	22	" "	"	6.25
100 "	24	" "	"	7.00
120 "	26	" "	"	7.50
140 "	28	" "	"	8.00
160 "	30	" x2½ to 3 in.	"	8.75
225 "	30	" x4 inch	"	11.00
325 "	36	" x4 inch	"	15.00

Knocked down for export when required.

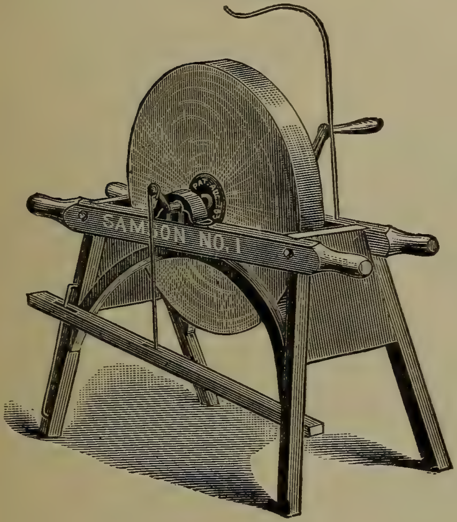


Fig. 782.

THE SAMSON.

Mounted with Specially Selected Stone.

PRICE PER DOZ.

No. 3,	Weight 40 to 50 lbs.	$54.00
" 2,	" 70 to 80 "	60.00
" 1,	" 100 to 110 "	72.00

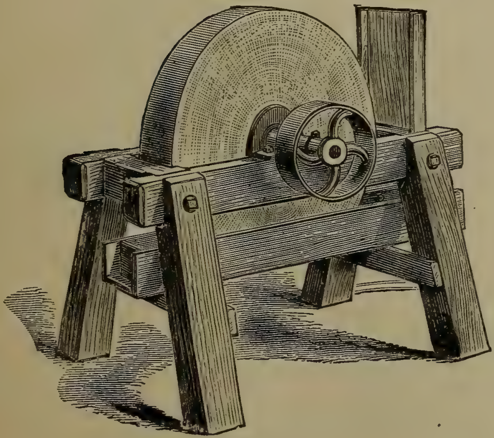


Fig. 783.

HEAVY WOOD FRAME FOR POWER.

24 inch	$14.00
30 "	20.00
36 "	28.00

MACHINISTS' GRINDSTONES.

MOUNTED ON IRON FRAMES.

STONE EXPRESSLY SELECTED AND WARRANTED.

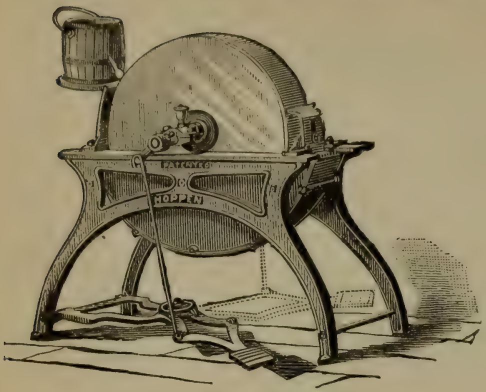


Fig. 784.

25 inch, $14.00.

Shield and Water Bucket, $1.50 extra.

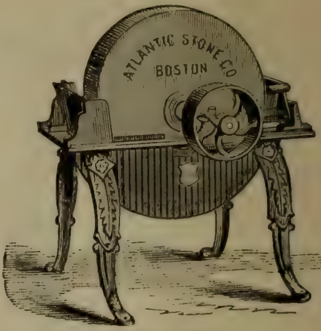


Fig. 785.

30 inch Light, $22.50.

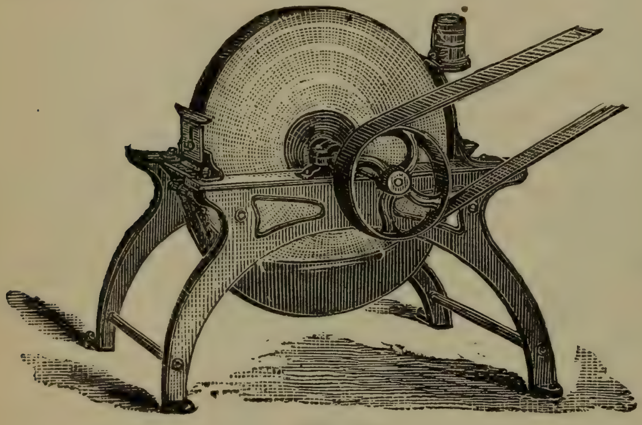


Fig. 786.

30 inch Heavy,
$26.00;

36 inch Heavy,
$40.00.

Shield and Water Bucket,
$2.00 extra.

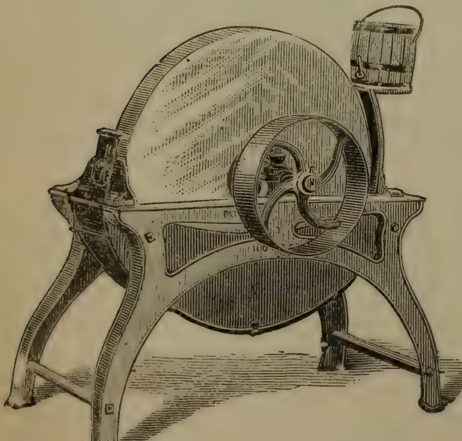


Fig. 787.

36 Inch Heavy.

$40.00.

PATENT POWER GRINDSTONE FRAME.

Arranged with Pulley for Power.

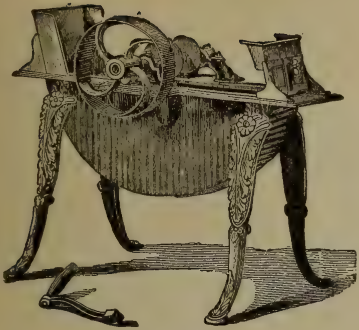


Fig. 788.

With pulley for power, to swing stone 30x4½ in.
Price, $15.00.

Arranged with pulley and treadle for power and foot.
Price, $16.00.

For size to swing stone 48x6 in., with pulley for power. Price, $50.00.

HAND OR FOOT GRINDSTONE FRAME.

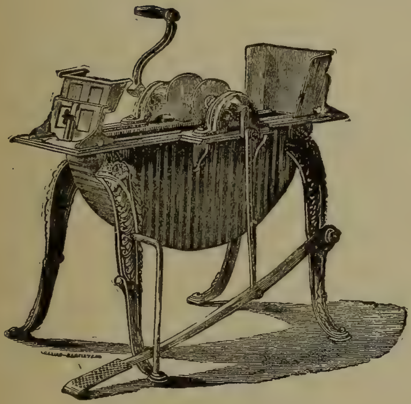


Fig. 789.

The cut shows Fig. 789 without the pulley for power and with foot treadle and handle, adapting it for use either by pedal or manual power. We can recommend this Frame as far ahead of the wooden article which, where durability and true economy is a factor, it is fast superseding.

Fig. 789, Patent Cast-Iron Grindstone Frame, arranged to be worked by hand or foot. Suitable to swing 30x4½ in. stone.
Price, $12 00

PATENT GRINDSTONE SHAFT.

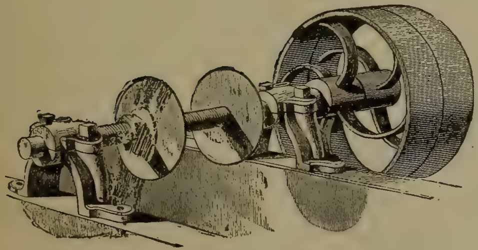


Fig. 790.

Fig. 790 shows Patent Grindstone Shaft, to be driven by power, with flanges, nuts, screws, and fast and loose pulleys. The flanges are adjustable to fit any thickness of stone.

PRICES.

Suitable for Stone.	Diameter of Pulleys.	Face.	As shown in Cut, with two Pulleys.	With one Pulley.
36x4 inch.	12 inch.	3 inch.	$9.00	$8.00
48x6 "	12 "	3 "	25.00	24.00
48x8 "	12 "	3 "	35.00	34.00

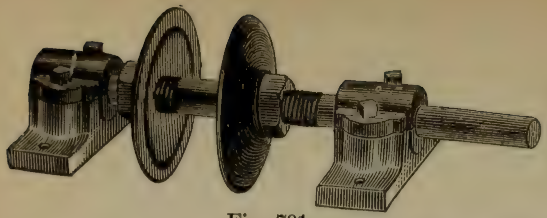


Fig. 791.

GRINDSTONE ARBORS.

1¼ inch . . .	Each $10.50
1½ " . . .	" 12.50
2 " . . .	" 16.50

GRIND STONES.

FOR MACHINISTS AND MANUFACTURERS.

Expressly Selected and Warranted.

Independence, per lb.	$	Nova Scotia, per lb.	$
Amherst, " . . .		Newcastle, " . . .	
Berea, " . . .			

When ordering please state for what purpose the Stone is required; by so doing you will get the proper grit.

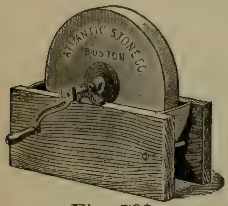


Fig. 792.

SHIP STONES.

12 inch	Each $2.50
14 "	" 2.75
16 "	" 3.00
18 "	" 3.25

FLINT SAND PAPER—OUR BEST.

In Sheets 9 x 11 Inches.

Numbers	000 to 1½	2	2½	3	3½	4
Per ream	$5.00	5.50	6.00	6.50	7.00	8.00

STAR FLINT SAND PAPER.

All Numbers 0 to 3 and Assorted Sheets 8¾ x 10½ inches, per ream, $4.25.

EXTRA FLINT PAPER

In Rolls 50 Yards Long, per Roll.

Width . . .	Nos. 00 to 1½	No. 2	No. 2½	No. 3	No. 3½	No. 4
24 inches . .	$ 5.50	$ 6.00	$ 6.50	$ 7.00	$ 8.00	$ 9.00
30 " . .	8.00	9.00	10.00	11.00	13.00	15.00
36 " . .	10.00	11.00	12.00	13.00	15.00	
40 " . .	12.00	13.00	14.00	15.00	17.00	
42 " . .	13.00	14.00	15.00	16.00	18.00	
48 " . .	15.00	17.00	18.00	20.00	23.00	

SAND CLOTH.

In Rolls 14 Inches Wide, 50 Yards Long.

Numbers 00 to 2, per roll . .	$10.00	Numbers 2½ and 3, per roll . .	$12.50

EMERY PAPER.

In Sheets, 9 x 11 Inches.

Numbers	00 to 1½	2	2½	3	3½
Per ream	$7.00	8.00	10.00	12.00	14.00

EMERY PAPER.

24 Inches Wide and 50 Yards Long.

Numbers	00 to 1½	2	2½	3	3½
Per roll	$7.50	9.00	11.00	13.00	15.00

EMERY CLOTH.

In Sheets, 9 x 11 Inches.

Numbers . .	FF to 1½	2	2½	3	3½	Crocus cloth.
Per ream . .	$20.00	22.00	26.00	28.00	30.00	20.00

EMERY CLOTH.

50 Yards Long, per Roll.

Width	Nos. 00 to 1½	2	2½	3	3½
9 inches	$ 7.00	$ 8.00	$ 9.50	$11.00	$13.00
18 "	14.00	16.00	19.00	22.00	26.00
27 "	21.00	24.00	28.50	33.00	39.00

STUBS' FILES.

(All Hand-Cut.)

SAW FILES, TAPER OR BLUNT, SINGLE OR DOUBLE CUT.

Length, inches	1 to 2	3	3½	4	4½	5	5½	6	6½	7	8	9	10
Per dozen	$1.80	2.20	2.30	2.50	2.80	3.40	3.60	3.80	4.25	4.65	6.20	7.20	8.10

KNIFE FILES.

Length, inches	2	2½	3	3½	4	4½	5	6
Bastard, per dozen	$1.85	1.85	2.25	2.35	2.50	2.75	3.40	4.25
Smooth “ “	2.10	2.10	2 50	2.60	2.90	3.35	4.00	4.85
Super “ “	2.85	2.85	3.20	3.45	3.70	4.30	5.00	5.85

SQUARE FILES.

Length, inches	2	2½	3	3½	4	4½	5	6
Bastard, per dozen	$1.85	1.85	2.25	2.35	2.50	2.80	3.40	4.25
Smooth “ “	2.10	2.10	2.50	2.70	2.90	3.35	4.00	4.90
Super “ “	2.85	2.85	3.20	3.45	3.90	4.30	5.00	5.85

Larger sizes same as Taper Flat.

TAPER FLAT, PILLAR AND COTTER FILES.

Length, inches	1 to 3	3½	4	4½	5	6	7	8	9	10	12
Bastard per dozen	$2.15	2.15	2.50	2.75	3.40	4.25	5.35	5.80	6.65	7.50	8.80
Smooth “ “	2.35	2.35	2.90	3.35	4.00	4.85	6.20	6.65	7.50	8.80	10.50
Super “ “	3.10	3.10	3.70	4.30	4.95	5.85	7.15	8.00	8.90	9.75	13.15

HAND OR POTTANCE FILES.

Length, inches	3	3½	4	4½	5	6	7	8	9	10	12
Bastard, per dozen	$2.35	2.35	2.50	2.80	3.40	4.25	5 35	6.20	7.05	7.90	9.65
Smooth “ “	2.60	2.60	2.90	3.30	4.00	4.85	6.20	7.05	7.90	8.80	11.35
Super “ “	3.45	3.45	3.85	4.30	5.00	5,85	7.15	8.45	9.75	10.50	14.30

TAPER THREE-SQUARE FILES.

Length, inches	2 to 2½	3	3½	4	4½	5	6	7	8	9	10	12
Bastard, per dozen	$1.80	2.15	2.25	2.50	2.60	3.40	3.80	4.90	6.20	7.05	7.90	9.65
Smooth “ “	2.10	2.45	2.70	2.90	3.10	4.00	4.45	5.80	7.05	7.90	8.80	11.35
Super “ “	2.40	2.80	3.15	3.40	3.85	4.75	5.65	7.15	8.00	9.75	10.60	13.15

ROUND FILES, TAPER.

Length, inches	2 to 2½	3	3½	4	4½	5	6	7	8	9	10	12
Bastard, per dozen	$1.85	2.25	2.35	2.50	2.70	3.40	3.80	4.90	5.80	6.65	7.50	8.80
Smooth “ “	2.30	2.70	2.90	3.10	3.30	4.00	4.85	6.20	7.05	8.35	9 65	12.20
Super “ “	3.05	3.45	3.65	4.05	4.50	5.40	6.70	8.45	8.90	10.60	11.45	15.00

HALF ROUND, ROUND EDGE JOINT, AND FLAT BACK HALF ROUND FILES.

Length, inches	2 to 2½	3	3½	4	4½	5	6	8	10	12
Bastard, per dozen	$2.10	2.50	2.70	3.10	3.30	4.00	4.85	6.20	8.35	10.50
Smooth “ “	2.30	2.70	3.00	3.35	3.50	4.45	5.30	7.05	9.65	12.20
Super “ “	3.05	3.45	3.65	4.05	4.50	5.40	6.20	8.90	11.45	15.00

EQUALLING FILES.

Length, inches	2 to 2½	3	3½	4	4½	5	6	8	10	12
Bastard, per dozen	$2.10	2.50	2 50	2.70	2.90	3.60	4.00	5.80	7.90	9.65
Smooth “ “	2.30	2.70	2.70	2.90	3.35	4 00	4.85	7.05	8.80	11.35
Super “ “	3.05	3.45	3.45	3.85	4.30	5.00	5.85	8.50	10.60	14.35

WARDING FILES.

Length, inches	2	2½	3	3½	4	4½	5	6
Bastard, per dozen	$1.85	1.85	2.25	2.25	2.50	2.60	3.15	4.00
Smooth “ “	2.10	2.10	2.50	2.50	2.75	3.10	4.30	4.65
Super “ “	3.05	3.05	3.45	3.45	3.65	4.05	5.00	5.85

LIST OF FILES AND RASPS.

LIST ADOPTED NOVEMBER 1st, 1899.

MILL AND ROUND.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18	20
Bastard, per doz.	$3.00	3.20	3.50	3.90	4.30	4.90	5.60	7.50	9.40	10.70	14.70	20.20	27.40
2d Cut, "	3.50	3.80	4.00	4.60	4.90	5.80	6.40	8.60	10.70	12.20	16.80	22.70	30.70
Smooth, "	3.90	4.10	4.50	4.90	5.40	6.30	7.00	9.40	11.70	13.10	17.90	24.30	32.90

Mill Blunt Dbl. Cut, advance 2 in. Mill Dbl. Cut, advance 1 in. Mill Narrow Point, advance 1 in.

MILL.

One Round Edge.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18
Bastard, per doz.,	$3.40	3.60	3.90	4.40	4.80	5.50	6.30	8.40	10.60	12.00	16.50	22.70
2d Cut, "	3.90	4.30	4.50	5.20	5.50	6.50	7.20	9.70	12.00	13.70	18.90	25.50
Smooth, "	4.40	4.60	5.10	5.50	6.10	7.10	7.90	10.60	13.20	14.70	20.10	27.30

MILL.

Two Round Edges.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18
Bastard, per doz.,	$3.80	4.00	4.40	4.90	5.40	6.10	7.00	9.40	11.80	13.40	18.40	25.30
2d Cut, "	4.40	4.80	5.00	5.80	6.10	7.30	8.00	10.80	13.40	15.30	21.00	28.40
Smooth, "	4.90	5.10	5.60	6.10	6.80	7.90	8.80	11.80	14.60	16.40	22.40	30.40

FLAT.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18	20
Bastard, per doz.,	$3.70	3.90	4.30	4.80	5.30	6.30	7.00	9.70	11.80	13.30	17.80	23.90	31.50
2d Cut, "	4.30	4.60	4.80	5.50	6.10	7.20	8.10	11.00	13.60	15.30	20.10	26.80	35.30
Smooth, "	4.70	4.90	5.30	6.10	6.60	7.90	8.70	12.10	14.70	16.70	22.30	29.20	38.30

Cant (Blunt) Dbl. Cut, advance 2 in.

SQUARE.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18	20
Bastard, per doz.,	$3.80	4.10	4.60	5.10	5.50	6.60	7.40	10.20	12.50	13.90	18.70	25.10	32.80
2d Cut, "	4.60	4.80	5.10	5.80	6.30	7.70	8.50	11.50	14.30	16.10	21.20	28.20	36.70
Smooth, "	4.90	5.30	5.50	6.30	7.00	8.30	9.10	12.80	15.40	17.50	23.30	30.40	39.30

Square Blunt, advance 1 in.

HAND AND PILLAR.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18	20
Bastard, per doz.,	$3.70	3.90	4.30	4.90	5.40	6.70	7.50	10.70	13.30	15.00	20.10	26.80	35.10
2d Cut, "	4.30	4.70	5.10	5.80	6.30	7.80	8.70	12.30	15.20	17.00	22.80	29.90	39.20
Smooth, "	4.80	5.30	5.60	6.30	6.70	8.30	9.40	13.50	16.20	18.20	24.20	31.50	41.60

Slotting (Blt.), advance 2 in. Cotter Blunt or Taper, advance 2 in.

HALF ROUND AND THREE SQUARE.

Length, inches.	4	5	6	7	8	9	10	12	13	14	16	18	20
Bastard, per doz.,	$4.80	5.40	6.10	7.00	7.50	8.50	9.10	11.80	14.10	15.50	20.60	27.50	36.20
2d Cut, "	5.60	6.10	6.70	7.70	8.30	9.40	10.10	13.00	15.40	17.00	22.50	29.90	39.40
Smooth, "	6.10	6.40	7.10	8.20	8.90	9.90	10.70	13.90	16.60	18.30	24.20	32.00	42.30

Ginsaw, take Bastard price. Crossing, advance 2 in. Feather Edge (Blunt), advance 2 in.
Tumbler, advance 2 in. High Back Half Round, advance 2 in.

WARDING.

Length, inches.		4	5	6	7	8	9	10	11	12	13	14
Bastard, per doz.,	.	$4.00	4.50	4.90	5.90	6.40	7.80	8.70	10.90	12.30	15.20	17.00
2d Cut, "	.	4.80	5.30	5.90	6.90	7.50	9.00	10.10	12.70	14.30	17.40	19.40
Smooth, "	.	5.40	5.80	6.40	7.50	8.20	9.90	11.00	13.70	15.40	18.70	21.00

KNIFE.

Length, inches.		4	5	6	7	8	9	10	11	12	13	14
Bastard, per doz.,	.	$5.40	6.10	6.90	7.80	8.50	9.40	10.10	12.20	13.70	16.30	18.20
2d Cut, "	.	6.10	6.70	7.50	8.50	9.10	10.60	11.50	13.70	15.20	17.90	19.90
Smooth, "	.	6.40	7.10	7.90	8.90	9.50	11.30	12.30	14.60	16.10	19.20	21.20

LIST OF FILES AND RASPS.—CONTINUED.

TAPERS

Length, inches,	3	3½	4	4½	5	5½	6	7	8	9	10	12	14
Single Cut, doz.,	$2.10	2.10	2.20	2.40	2.60	3.00	3.40	4.30	5.40	6.60	8 10	12.50	18.20
Double " "	2.50	2.50	2.90	3.10	3.50	4.00	4.70	5.60	6.70	8.10	9.70	14.70	20.60

SLIM TAPERS.

Length, inches,	3	3½	4	4½	5	5½	6	7	8	9	10	12	14
Single Cut, doz.,	$2.10	2.10	2.20	2.30	2.50	2.90	3.10	3.80	4.50	5.40	6.40	9.50	13.80
Double " "	2.50	2.50	2.60	3.00	3.20	3.50	3.90	4.50	5.30	6.30	7.50	11.00	15.40

BANDSAW, BLUNT AND TAPER.

Length, inches,	3	3½	4	4½	5	5½	6	7	8	9	10	12	14
Regular, doz.,	$2.50	2.50	2.90	3.10	3.50	4.00	4.70	5.60	6.70	8.10	9.70	14.70	20.60
Slim "	2.50	2.50	2.60	3.00	3.20	3.50	3.90	4.50	5.30	6.30	7.50	11.00	15.40

WOOD FILES.

Length, inches,	6	7	8	9	10	11	12	13	14	15	16	18
Flat, doz.,	$4.30	4.80	5.30	6.30	7.00	8.60	9.70	11.80	13.30	16.00	17.80	23.90
Half round, dz.	6.10	7.00	7.50	8.50	9.10	10.70	11.80	14.10	15.50	18.50	20.60	27.50
Cabinet, "	8.10	9.30	10.10	12.20	13.70	16.80	18.70	22.40	24.80	29.70	32.90	43.60

WOOD RASPS.

Length, inches	6	7	8	9	10	11	12	13	14	15	16	18
Flat, doz.,	$7.40	8.60	9.40	11.40	12.80	15.50	17.50	20.90	23.20	27.80	30.80	40.90
Half round, dz.,	8.10	9.30	10.10	12.20	13.70	16.80	18.70	22.40	24.80	29.70	32.90	43.60
Cabinet, "	10.10	11.70	12.80	15.50	17.50	20.70	22.80	26.80	29.60	33.90	36.90	46.90

SINGLE-CUT FILES.

Length, inches,	4	5	6	7	8	9	10	11	12
Pit Saw, doz.,	$4.80	5.40	6.10	7.00	7.50	8.50	9.10	10.70	11.80
Cant Saw, doz.,	4.30	4.70	5.40	6.10	6.40	7.80	8.70	10.40	11.40
Cross Cut, "	4.80	5.40	6.10	7 00	7.50	8.50	9.10	10.70	11.80
Hook Tooth, doz.,	. .	. .	6.70	7.70	8.30	9.40	10.10	11.80	13.00
Planer Knife, "	. .	. .	. .	. .	6.40	. .	8.60	. .	12.10

DOUBLE-ENDED TAPER.

Length, inches	6	7	8	9	10
Per dozen	$3.50	3.50	3.90	4.40	4.90

Sizes below 4 inches, not extended, take 4-inch price.
Half inches not specified, take next higher full inch price.
Dead Smooth, double the price of Bastard Cut.

EMERY (GRAIN).

Numbers	4 to 46	50 to 180	Flour.
10 lb. Cans, per lb.	$0.10	.10	.08
50 " " "	.09	.09	.07½
¼ Kegs about 100 lbs., per lb. . . .	.08	.08	.07
½ " " 175 " "	.07	.07	.0 ½
Kegs " 350 " " . . .	.06	.06	05½

GRINDING AND POLISHING MACHINES.

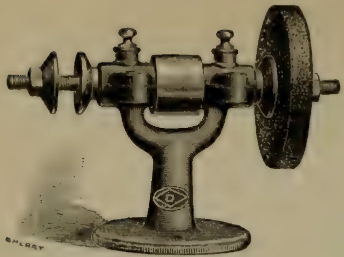


Fig. 793.

Will run two Wheels, 6 inches Diameter.
Size of Arbor between Flanges, ½ inch.
Size of Pulley on Spindle, 2x1½ inches.

Price Head	$ 6.00
" Column	10.00
" Countershaft . . .	10.00

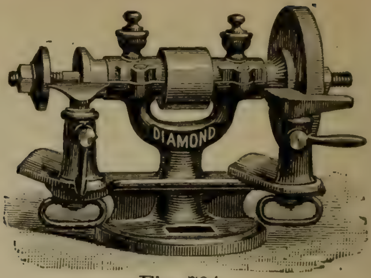


Fig. 794.

Will run two Wheels 6 inches in Diameter.
Size of Arbor between Flanges, ½ inch.
Size of Pulley on Spindle 2x1½ inches.

Price Head	$ 8.50
" Column	10.00
" Countershaft . . .	10.00

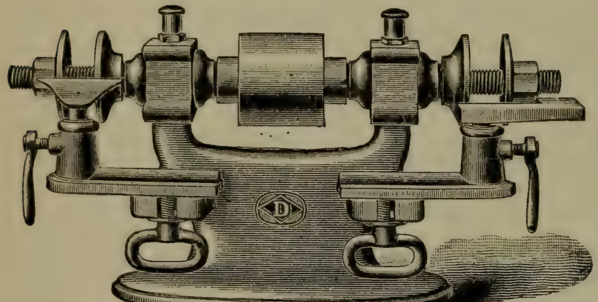


Fig. 795.

Fig. 795.

Will run two Wheels 9 in. Diameter.
Size of Pulley, 3x2¾ inches.

Size of Arbor between Flanges, ¾ in.

Price Head . . .	$16.00
" Column . . .	12.00
" Countershaft . .	12.00

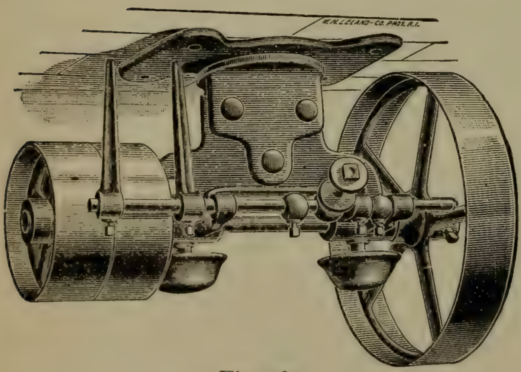


Fig. 796.

PATENT COUNTERSHAFT.

WITHOUT PATENT BELT SHIFTER.

Used with Grinding Machines, Figs. 793, 794, 795.

This is a convenient Countershaft for any light machinery. The drop of hangers is 7 inches. The size of tight and loose pulleys is 6 inches in diameter, 2½ in. face. Diameter of driving pulley, 12 inches, 2¼ inch face; diameter of shaft, ⅞ inch. Length of shaft, 18 inches. We also furnish larger sizes of this hanger.

Price as shown	$10.00

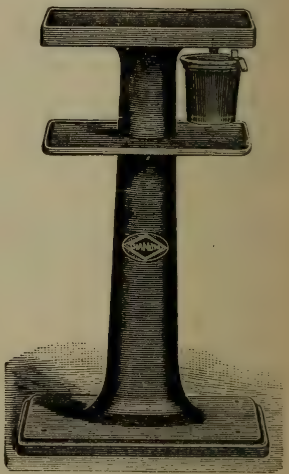


Fig. 797.

IRON COLUMN WITH WATER POT.

For mounting Grinding Machines Figs. 793, 794.

Size of Iron Table . .	16 x 10 inches
Size of Base of Column	16 x 13 "
Height from floor . .	30 "
Weight of Column . . .	100 pounds
Price with Water Pot	$10.00
" " " Fig 795 .	12.00

GRINDING AND POLISHING MACHINES.

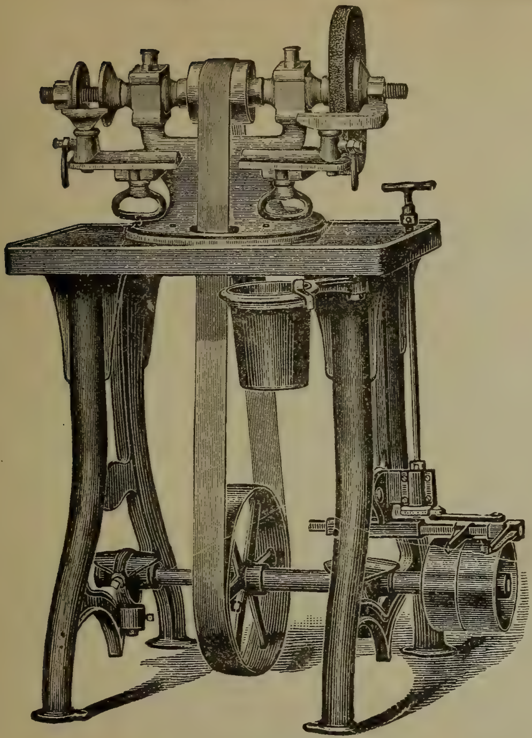


Fig. 798.

This Machine will run two wheels up to 12 inches in diameter.

Size of Arbor between Flanges, 1 inch; size of Pulley, 4x3½ inches.

Price of Machine, Stand and Driving Shaft, as illustrated,	$60.00
Price Grinding Head .	28.00
" Frame with Water Pot,	17.00
Price Driving Shaft and Belt Shifter attached .	15.00
Weight of Stand . .	175 lbs.
" with Stand and countershaft	300 lbs.
Weight complete boxed for export	375 lbs.

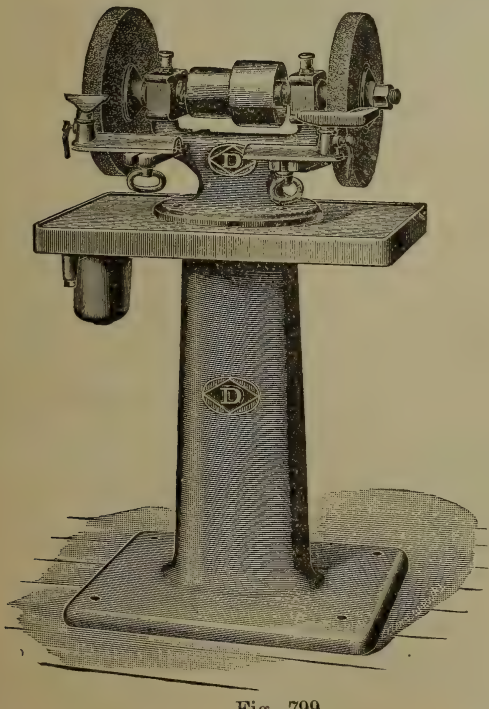


Fig. 799.

This Machine will run two wheels up to 14 inches diameter.

Size of Arbor between Flanges, 1 inch; size of Cone Pulley, 4½ and 3½x3¼ inches.

Price on column, as illustrated, with Countershaft .	$65.00
Price of Grinding Head .	33.00
Price of Column and Table with Water Pot . . .	15.00
Price of Countershaft with Cone Pulley and Belt Shifter	17.00
Price of Surface Attachment	25.00

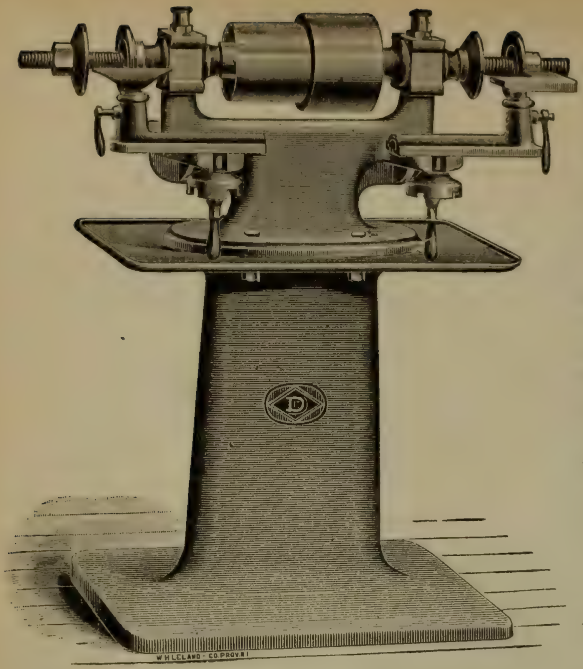


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Fig. 800.

GRINDING MACHINE.

This machine will run two wheels up to 16 inches in diameter.

The Countershaft has tight and loose pulleys 8x4½ inches, and cone pulley 12 and 13x4¾ inches. Drop of hangers is 10 inches, and shaft is 32 inches long.

Countershaft should run 600 revolutions per minute. This will give the spindle, on the slowest speed, 1,200 revolutions; on the quickest speed, 1,560 revolutions per minute.

Price on Column with Countershaft	$80.00
Price of Head only	46.00
" Countershaft	17.50
" Iron Pedestal, with Table	16.50
" Adjustable Surface Table Attachment	30.00
Weight on Column as shown	500 lbs.
Weight Complete, with Countershaft boxed for export	675 lbs.

FIG. 800A

GRINDING MACHINE.

New Pattern, Improved and Enlarged.

This machine is designed to run two wheels up to 20 inches diameter. In other respects the description of this machine is same as Fig. 800, illustrated above.

Size of Base on Head,	18x12	inches.	Length of Bearings,	6	inches.
Height from Table to center of Spindle,	15	"	Diam. Spindle in Bearings,	9/16	"
Height from Floor to top of Iron Table,	19	"	Diam. Spin. bet. Flanges,	1½	"
Height from Floor to centre of Spindle,	34	"	Size Cone Pulley on Spindle,	6 and 7x4¾	"
Distance between Wheels,	26	"	Length of Spindle,	39¼	"
Dimensions of Iron Table,	26x20	"			
Dimensions of Base of Column,	26x24	"			

Weight complete, with Countershaft,	750 lbs.
Weight complete, with Countershaft, boxed for export,	880 "

Price on Column, with Countershaft,	$108.00
Price of Head only,	70.00
" Countershaft,	20.00
" Iron Column, with Table,	18.00
" Surface Table Attachment,	35.00

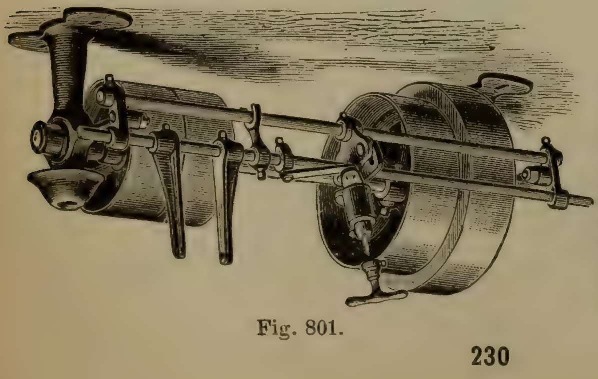


Fig. 801.

COUNTERSHAFT

for Machines is here shown with Hadley's Patent Belt Shifter attached. It has tight and loose pulleys, 8x5¼. Cone pulleys, 17 and 18x4¾. The drop of hangers is 10 in. Entire length of shaft, 34 in. For Machine the Countershaft should run 400 revolutions per minute. This will give to the spindle, on the slowest speed, about 970 revolutions; on the quickest speed, about 1,200 revolutions per minute.

SINGLE WHEEL TOOL GRINDERS.

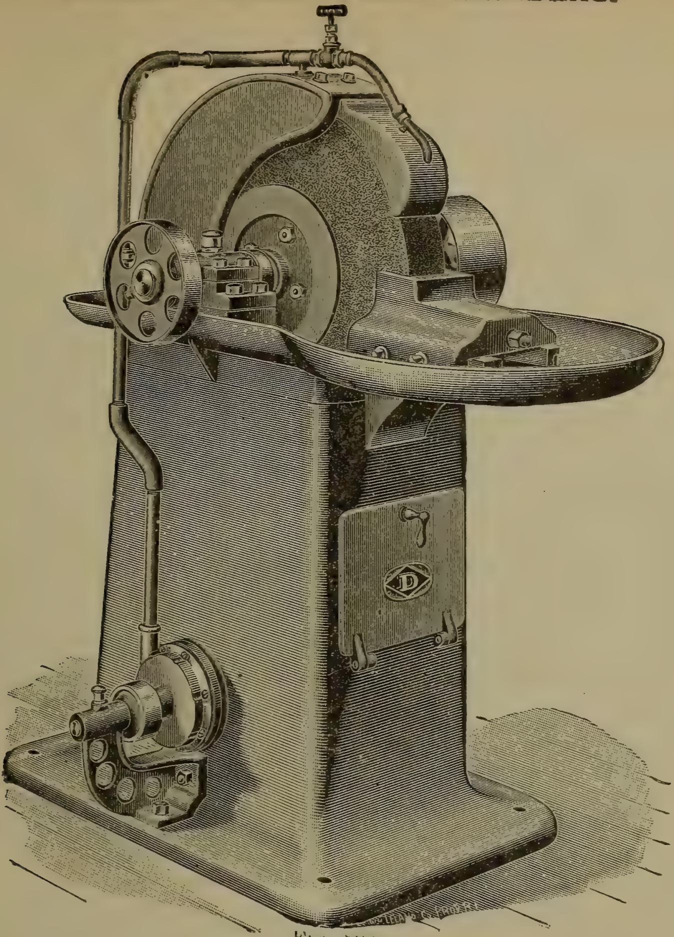


Fig. 802.

	No. 1	No. 2.	No. 3.	No. 4.	No. 5.
Size of Wheels . .	14 x 2	20 x 2½	24 x 3½	30 x 4	36 x 4

The machine has tanks located inside of column, easily accessible. An arrangement patented draws the water by siphon from the upper to the lower tank. Engine lathe boxes are used, protected at each end by patented dust excluding device.

The water is distributed on the wheel directly in front of the tool being ground. On the inside of the hood a raised surface is cast, which is the outside diameter of the flanges used, and which leads all spray or water from the inside of the hood to the column, keeping it entirely from the spindle and boxes. The rests are movable to and from the wheel, without the use of wrench. The collars, steel spindles, pulleys, and all running parts are turned accurately to obtain a well balanced, smooth running machine. The truing device is permanently attached to the rest. By turning a screw the device is brought to the wheel, which is thus kept perfectly true and sharp.

The Tool Grinder with an Automatic Pump and separate water tanks, with patented siphon arrangement for separating the clean water from the dirt and sediment, with the power to control or regulate the flow of water over the wheel and tool, when being ground by the operator, will always have an advantage over any machine of this class that uses the same water over and over, mixed with the sediment from the wheel, from which no provision has been made to separate the same, or to regulate the flow of it upon the wheel. For Description See Page 232.

No. 1 TOOL GRINDER.

EMERY WHEEL 14 x 2 x 1½ INCHES.

Size of Base,	21 x 17 in.	Diam. of Spindle between Flanges,	1½ in.
Height from floor to centre Spindle,	38 "	Size of Pulley on Spindle,	6 x 3½ in.
Bearings,	5 in. long x 1¼ in. diam.	Weight,	400 lbs.

Weight with Countershaft boxed for export, ... 580 lbs.
Dimensions with Countershaft boxed for export, 28 in. x 36 in. x 52 in.

Price, complete with Countershaft and Truing Device, ... $87.50

Tight and loose pulleys on Countershaft, 7 in. diameter. Driving Pulley on Countershaft, 15 in. diameter. Countershaft should run 300 revolutions per minute.

No. 2 TOOL GRINDER.

EMERY WHEEL 20 x 2½ x 1¾ INCHES.

Size of Base,	24 x 27 in.	Diam. of Spindle between Flanges,	1¾ in.
Height from floor to centre Spindle,	38 in.	Diam. of Cone Pulley on Spindle,	5 and 6 x 3½ in.
Bearings,	7 in. long x 1½ in. diam.	Weight,	800 lbs.

Weight with Countershaft boxed for export, ... 1100 lbs.
Dimensions with Countershaft boxed for export, . 34 x 44 x 56 in.

Price, complete with Countershaft and Truing Device, ... $137.50

Countershaft has tight and loose pulleys, 8 x 3½ in. Cone Pulley, 12 and 13 in. diam. It should run 250 revolutions per minute, giving the spindle 500 to 600 revolutions per minute.

No. 3 TOOL GRINDER.

EMERY WHEEL 24 x 3½ x 10 INCHES.

Size of Base,	26 x 40 in.	Diam. of Spindle in Bearings,	1¾ in.
Height from floor to centre Spindle,	36 in.	Diam. of Spindle between Flanges,	2 in.
Bearings,	8 in. long x 1¾ in. diam.	Diam. of Pulley on Spindle,	10 in., 5 in. face.

Weight, ... 1200 lbs.
Weight with Countershaft boxed for export, ... 1400 lbs.
Dimensions with Countershaft boxed for export, . . 34 x 48 x 57 in.

Price, complete with Countershaft and Truing Device, ... $225.00

Countershaft should run 280 revolutions per minute, giving the Spindle a speed of 476 revolutions per minute. Countershaft has tight and loose Pulleys, 10 x 5¼ in. Driving pulley, 17 x 6 in.

No. 4 TOOL GRINDER.

EMERY WHEEL 30 x 4 x 16 INCHES.

Size of Base,	28 x 45 in.	Diam. of Spindle between Flanges,	3 in.
Height from floor to centre Spindle,	37 in.	Diam of Pulley on Spindle,	14 in., 6 in. face.
Bearings,	9 in. long x 2¾ in. diam.	Weight,	2000 lbs.

Weight with Countershaft, boxed for export, ... 2500 lbs.
Dimensions with Countershaft boxed for export, . . 36 x 56 x 60 in.

Price, complete with Countershaft and Truing Device, ... $275.00

Countershaft has tight and loose Pulleys, 10 in. x 6 in. Driving Pulley, 18 in. x 6 in. Countershaft should run 280 revolutions per minute, giving the Spindle a speed of 360 and upwards revolutions per minute.

No. 5 TOOL GRINDER.

EMERY WHEEL 36 x 4 x 21 INCHES.

Size of Base,	28 x 51 in.	Diam. of Spindle between Flanges,	3 in.
Height from floor to Centre Spindle,	37 in.	Diam. of Pulley on Spindle,	16 in., 6 in. face.
Bearings,	10 in. long x 2¾ in. diam.	Weight,	2500 lbs.

Weight with Countershaft boxed for export, ... 3000 lbs.
Dimensions with Countershaft boxed for export, . 36 x 56 x 60 in.

Price, complete with Countershaft and Truing Device, ... $325.00

The Countershaft has the same dimensions as for No. 4 machine, and should run 260 revolutions per minute, giving to the machine a speed of 292 revolutions per minute.

For illustrations see page 231.

PRICE LIST EMERY WHEELS.

DIAM. IN INCHES	THICKNESS OF WHEELS IN INCHES												REVOLUTIONS PER MINUTE
	1/4	1/2	5/8	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	
1½	$ .30	$ .40	$ .45	$ .45	$ .50	$ .55	$ .60	$ .70	$ .80	$ .90	$ 1.00	$ 1.10	14000
2	.35	.50	.55	.55	.60	.65	.70	.80	.90	1.00	1.10	1.20	10000
2½	.40	.65	.70	.75	.85	.95	1.05	1.25	1.45	1.65	1.85	2.05	8500
3	.50	.80	.90	.95	1.10	1.25	1.40	1.70	2.00	2.30	2.60	2.90	7000
3½	.60	.95	1.05	1.15	1.35	1.55	1.75	2.15	2.55	2.95	3 35	3.75	6035
4	.75	1.10	1.25	1.35	1.60	1.85	2.10	2.60	3.10	3.60	4.10	4.60	5300
4½	.90	1.25	1.40	1.55	1.85	2.15	2.45	3.05	3.65	4.25	4.85	5.45	4700
5	1.00	1.40	1.65	1.80	2.20	2.60	3.00	3.80	4.60	5.40	6.20	7.00	4200
6	1.40	1.75	2.10	2.40	3.05	3.70	4.35	5.65	6.95	8.25	9.55	10.85	3500
7	1.85	2.15	2.60	3.00	3.85	4.70	5.55	7.25	8.95	10.65	12.35	14.05	3000
8	2.10	2.60	3.10	3.60	4.60	5.60	6.60	8.60	10.60	12.60	14.60	16.60	2600
9	2.50	3.10	3.70	4.25	5.40	6.55	7.70	10.00	12.30	14.60	16.90	19.20	2300
10	3.00	3.65	4.35	5.00	6.35	7.70	9.05	11.75	14.45	17.15	19.85	22.55	2100
12	3.60	4.00	5.00	6.00	7.40	9.00	10.70	14.00	17.40	20.75	24.25	27.50	1800
14	4.05	6 25	7.30	8.45	10.65	12.85	15.05	19.45	23.85	28.25	32.65	37.05	1500
16	......	8.00	9.45	10.85	13.70	16.55	19.40	25.00	30.80	36.50	42.20	47.90	1300
18	......	......	....	13 25	17.00	20.75	24.50	32.00	39.50	47.00	54.50	62.00	1150
20	......	......	....	15.75	20.25	24.75	29.25	38.25	47.25	56.25	65.25	74.25	1050
22	......	......	....	....	25.00	31.00	37.00	49.00	61.00	73.00	85.00	97.00	950
24	......	......	....	....	29.00	36.00	43.00	57.00	71.00	85.00	99.00	113.00	850
26	......	......	....	....	35.00	43.00	51 00	67.00	83.00	99.00	115.00	131.00	775
30	......	......	....	....	....	50.00	61.00	83.00	105.00	127.00	149.00	171.00	700
36	......	......	....	....	....	....	95 00	126.00	157.00	188.00	219.00	250.00	525
42	......	......	....	....	....	....	....	160.00	190.00	225.00	260.00	300.00	400
48	......	......	....	....	....	....	....	185.00	220.00	265.00	300.00	360.00	350

For the convenience of users the different grades are divided into the following classes :

CLASS 1.—Coarse and very hard For grinding heavy castings.
CLASS 2.—Coarse and medium hard. For grinding sprues from castings, stove fitting, etc.
CLASS 3.—Medium coarse and medium hard. For general machine shop use, lathe tools, small castings, wrought and malleable iron and steel.
CLASS 4.—Coarse soft. For surfacing iron and steel.
CLASS 5.—Very soft wheel. For gumming saws and sharpening wood-workers' tools.
CLASS 6.—Fine and medium soft. For grinding tools and surfacing iron, brass or steel.
CLASS 7.—Very fine and medium hard. For grinding taps, cutters, drills, etc., where a corner is to be held up, and where little metal is to be removed

ZINC & RUBBER AND BRONZE & RUBBER
WEATHER STRIP.

Specially adapted to the Doors and Windows of Palace Cars, Railroad Coaches, Steamships, and all doors and windows having semi-circular or elliptic heads where Wood and Rubber Weather Strips cannot be well applied.

SINGLE EDGE.

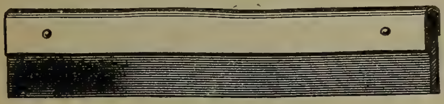


Fig. 803.

Price per foot . . . . $

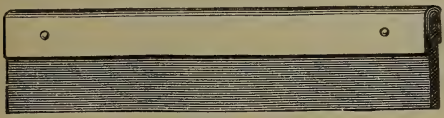


Fig. 804.

Price per foot . . . . $

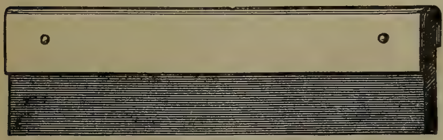


Fig. 805.

Price per foot . . . . $

CUSHION EDGE.

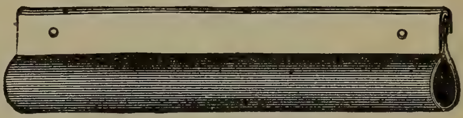


Fig. 806.

Price per foot . . . . $

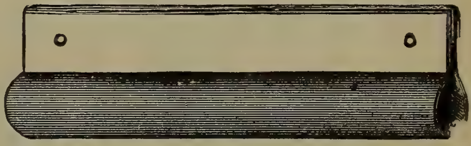


Fig. 807.

Price per foot . . . . $

All Metal Strips manufactured in 7-foot Lengths.

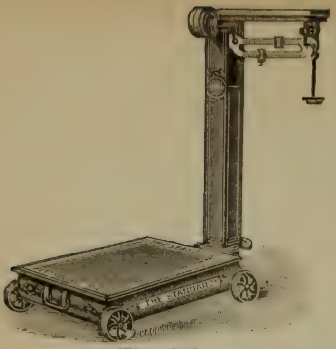


Fig. 808.

PORTABLE PLATFORM SCALES.

With Brass Beam and Sliding Poise.

WITH WHEELS.				WITHOUT WHEELS.	
No.	Capacity Lbs	Platform Inches.	Price.	No.	Price.
1116.	2,500 x ½	25 x 33	$85.00	1100.	$80.00
1118.	2,000 x ½	25 x 33	75.00	1102.	70.00
1120.	1,500 x ½	21 x 28	56.00	1104.	52.00
1122.	1,200 x ½	20 x 28	49.00	1106.	45.00
1124.	1,000 x ½	17 x 26	43.00	1108.	39.00
1126.	800 x ½	17 x 26	38.00	1110.	34.00
1128.	600 x ¼	16 x 25	33.00	1112.	30.00
1130.	400 x ¼	15 x 21	26.00	1114.	23.00

Scales, 1000 lb. and larger, have pillar braces.

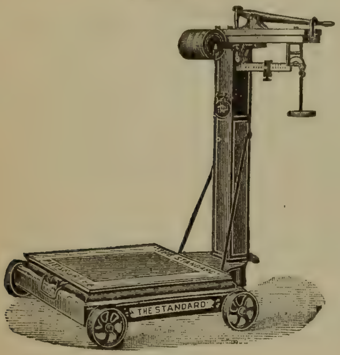


Fig. 809.

PORTABLE PLATFORM SCALES.

WITH WHEELS AND DROP LEVER.

With Brass Beam and Sliding Poise.

No.	Capacity Lbs.	Platform Inches.	Price.
1166	2,500 x ½	25 x 33	$94.00
1168	2,000 x ½	25 x 33	82.00
1170	1,500 x ½	21 x 28	70.00
1172	1,200 x ½	20 x 28	59.00
1174	1,000 x ½	17 x 26	51.00

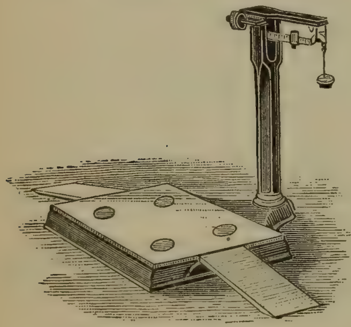


Fig. 810.

WHEELBARROW SCALES.

Made Entirely of Iron, for Weighing Coal, Ore or Other Substances in Barrows.

Furnished with Set of Inclines.

With Brass Beam and Sliding Poise.

WITHOUT WHEELS.				WITH WHEELS.	
No.	Capacity Lbs.	Platform Inches.	Price.	No.	Price.
1382.	1,000 x 1	42 x 30	$70.00	1384.	$75.00
5387.	1,500 x 1	42 x 30	80.00	5389.	85.00

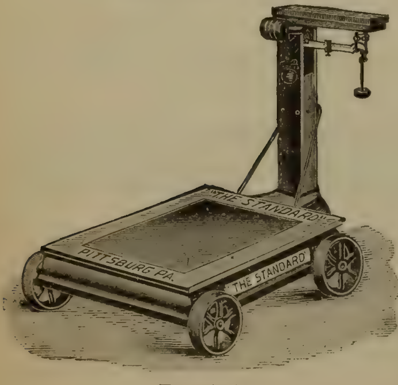


Fig. 811.

PORTABLE PLATFORM SCALES.

Foundry Scale. Extra Heavy.

With Brass Beam and Sliding Poise.

WITH WHEELS.

No.	Capacity Lbs.	Platform Inches.	Price.
1208	3.000	31 x 40	$125.00
5209	4,000	31 x 40	140.00
5210	6.000	31 x 40	165.00

WITH WHEELS AND DROP LEVER.

No.	Capacity Lbs.	Platform Inches.	Price.
1164	3,000	31 x 40	$125.00
5165	4,000	31 x 40	140.00
5166	6,000	31 x 40	165.00

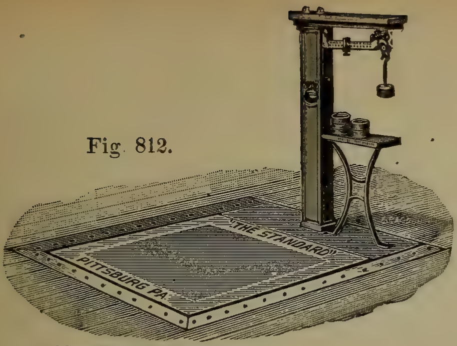


Fig. 812.

DORMANT WAREHOUSE SCALES.

With Single Wood Pillar.

Brass Sliding Poise.

No.	Capacity Lbs.	Platform Inches.	Price.
1036	5,000x½	48x48	$150.00
1038	3,500x½	42x44	105.00
1040	2,500x½	46x37	92.00
5044	1,500x½	42x30	85.00

Above Scales furnished with Drop Lever if desired, but for ordinary use we recommend Scales without it.

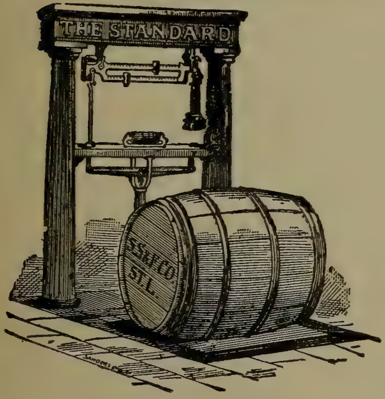


Fig. 813.

DORMANT WAREHOUSE SCALES.

With Two Iron Pillars.

Double Brass Beam and Sliding Poises.

No.	Capacity Lbs.	Platform Inches.	Price.
1046	5,000x½	48x48	$170.00
1048	3,500x½	42x44	125 00
1050	2,500x½	46x37	105.00
5054	1,500x½	42x30	100.00

MINERS' AND TRANSPORTATION SCALES.

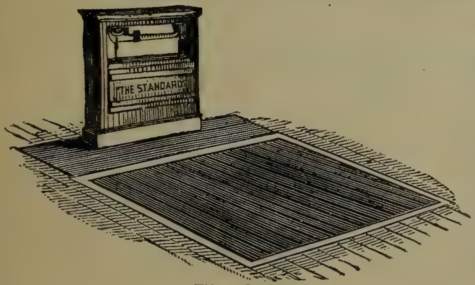


Fig. 814.

No.	Capacity Tons.	Platform.	Price Single Beam.	Price Double Beam.
2192	2	5 ft.x4ft.	$135.00	$143.50
2166	3	6 ft.x3ft. 10 in.	155.00	163.50
2190	3	8 ft.x4ft. 6½in.	155.00	163.50
2164	4	5 ft.x4ft.	170.00	180.00
2188	4	6 ft.x4ft. 11¼ n.	170.00	180.00
2163	4	10 ft.x4ft. 1¼in.	170.00	180 00
2186	5	5 ft.x4ft.	185.00	195.00
2162	5	6 ft.x4ft. 11¼ n.	185.00	195.00
2184	6	7 ft.x4ft. 9¼in.	205.00	215.00
2158	8	6½ft.x4ft. 10⅜in.	240.00	250.00
2156	10	6 ft.x4ft. 11¼in.	270.00	280.00

The sizes of Platforms of these Scales may be varied somewhat from the above dimensions and without increasing cost of the Scale. Above prices are exclusive of lumber and foundation, which are to be furnished by the purchaser.

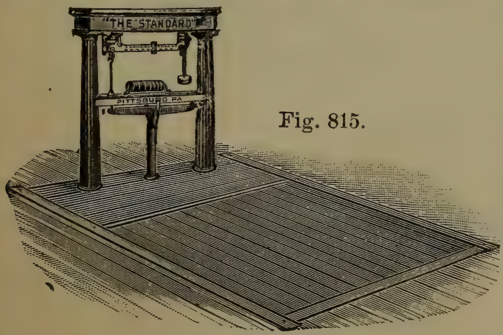


Fig. 815.

RAILROAD DEPOT SCALES.

No.	Capacity Tons.	Platform.	Price Single Beam.	Price Double Beam.
6262	10	12 ft.x8ft. 10 in.	$330.00	$345.00
2264	6	10 ft.x9ft. 2¼in.	280.00	295.00
6272	6	8 ft.x6ft. 0⅝ n.	280.00	295.00
6274	6	6 ft.x5ft.	280.00	295.00
2266	4	9 ft.x6ft. 11 in.	230.00	240.00
6278	4	6 ft.x5ft.	230 00	240.00
6276	4	5 ft.x4ft.	230.00	240.00
2268	3	6 ft.x4ft. 11¼in.	210.00	218.50
2270	2	7½ft.x4ft. 8⅛in.	168.00	176.50

Above prices are exclusive of timber and foundation.

SINGLE BEAM FOR RAILROAD TRACK SCALE.

ENTIRE CAPACITY INDICATED ON BEAM.

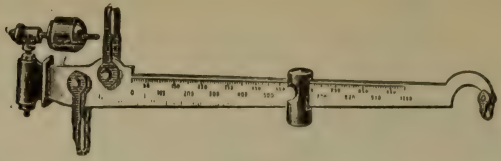


Fig. 816.

DOUBLE BEAM FOR RAILROAD TRACK SCALE.

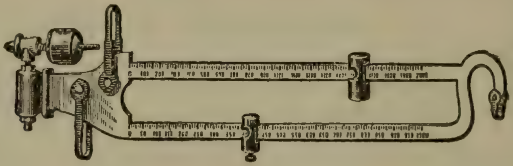


Fig. 817.

Double Beam for Track Scales, extra $20.00

TRIPLE BEAM FOR RAILROAD TRACK SCALES.

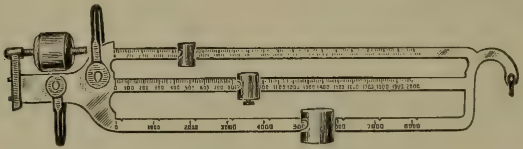


Fig. 818.

The Triple Beam is favored by coal and mine operators. The lower beam can be used for tare or weight of empty railroad car, and the front beam for weighing contents of small mine cars, giving credit to each individual miner, and the upper beam as a check and to register total weight.

Triple Beam for Track Scales, extra $35.00

GRIDIRON BEAM FOR RAILROAD TRACK SCALE.

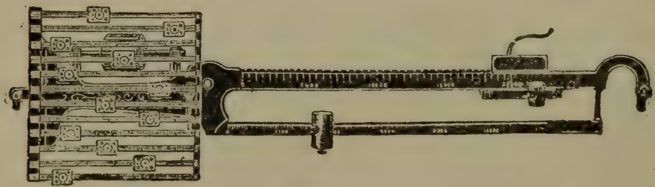


Fig. 819.

The Gridiron Beam is especially adapted for coal mines. Weight or Tare of empty railroad car is taken on lower beam and weight of coal from each small car is noted on a separate beam, giving credit to individual miners. When car is loaded total weight is taken on upper beam.

Gridiron Beam for Track Scales, with 12 Coal Beams, extra . . . $75.00
Each Coal Beam above twelve, extra 5.00

IRON FRAME RAILROAD TRACK SCALES.

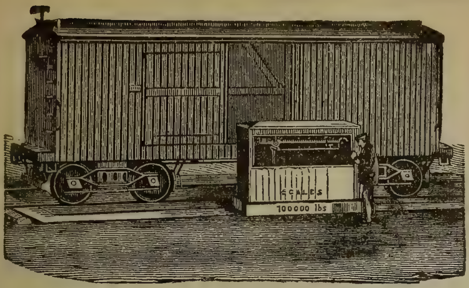


Fig. 820.

Capacity from 15 tons to 150 tons.

Length of Platform, 6 to 130 feet.

Prices quoted upon receipt of Specifications.

Scales furnished with either Single, Double or Triple Beams.

Prices quoted will be exclusive of Timber and Foundations, which are furnished at purchaser's expense.

REED RECORDING ATTACHMENT.

FOR SCALE BEAMS.

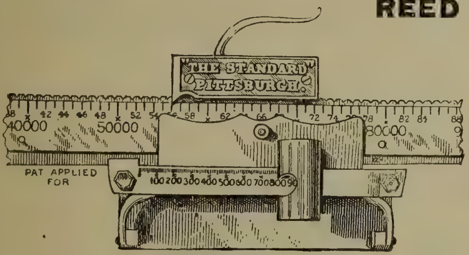


Fig. 821.

Prices on application.

The Recording Attachment shown in this illustration is the most satisfactory device yet invented for obtaining a correct record of weights.

Its simplicity of construction, absolute accuracy of record of the weight at one operation, cannot be surpassed. Its movement is not affected by dirt, dust or weather.

The correct weight can be had in less time than by reading the beam, and a record is obtained which can be referred to at any time, and is valuable evidence in case of disputed weights. The attachment can be applied to any make of Scales.

WEIGHMASTERS' BEAMS.

WITH POISES.

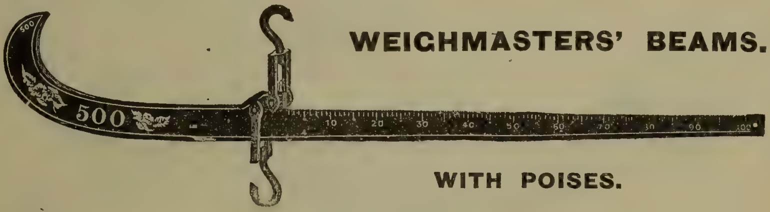


Fig. 822.

Capacity. Lbs.	Best Japanned. No.	Best Japanned. Price.	Best Polished. No.	Best Polished. Price.	Capacity. Lbs.	Best Japanned. No.	Best Japanned. Price.	Best Polished. No.	Best Polished. Price.
100 . .	102	$ 7.00	103	$11.00	700 . .	118	$19.00	119	$24.00
150 . .	104	7.50	105	11.50	800 . .	120	22.00	121	27.00
200 . .	106	8.00	107	12.00	1000 . .	122	24.50	123	30.00
250 . .	108	8.50	109	12.50	1200 . .	124	27.00	125	33.00
300 . .	110	9.00	111	13.00	1500 . .	126	32.00	127	40.00
400 . .	112	12.50	113	16.50	2000 . .	128	41.00	129	50 00
500 . .	114	14.00	115	18.50	2500 . .	130	48 00	131	58.00
600 . .	116	15.50	117	20.00	3000 . .	132	55.00	133	67.00

Prices on Weighmasters' Frames, suitable for above beams, quoted on application.

TRACK GAUGE.

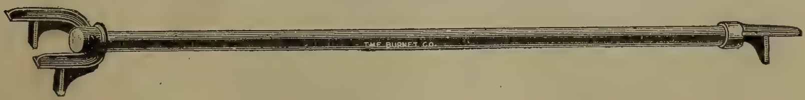

THE BURNET CO.

Fig. 823.

Huntington Track Gauge . . . Per dozen, $21.00

ECCENTRIC RAIL BENDER.

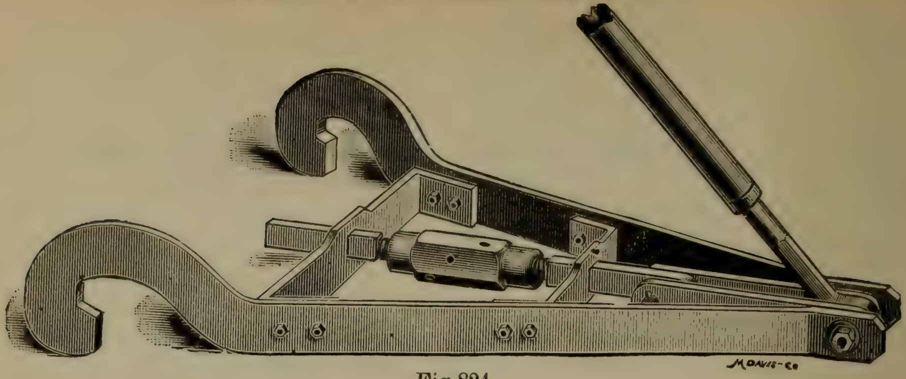


Fig 824.

WILL BEND 56 TO 90 LB. RAIL.

Operating Lever is made of Pipe. Weight, 140 to 190 lbs. Price, $50.00.

MANNING RAIL BENDER.

WILL BEND 56 TO 90 LB. RAIL.

Weight	. .	80 lbs.
Price	. .	$50.00

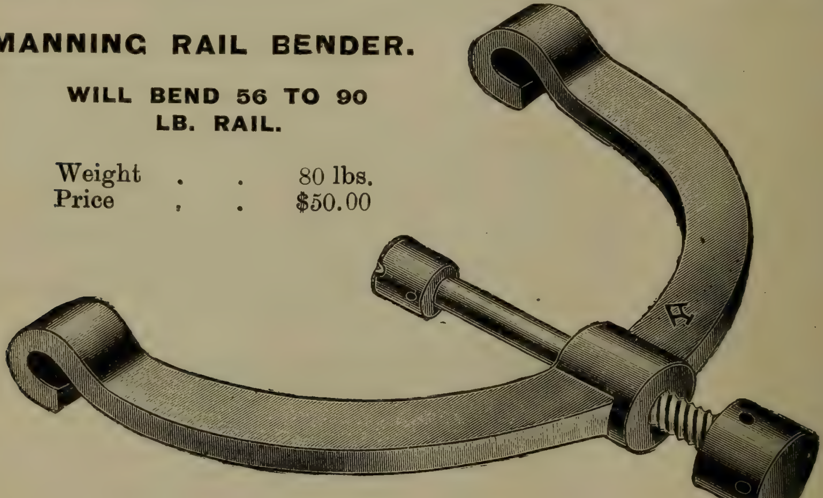


Fig. 825.

SCREW RAIL BENDERS OR JIM CROWS.

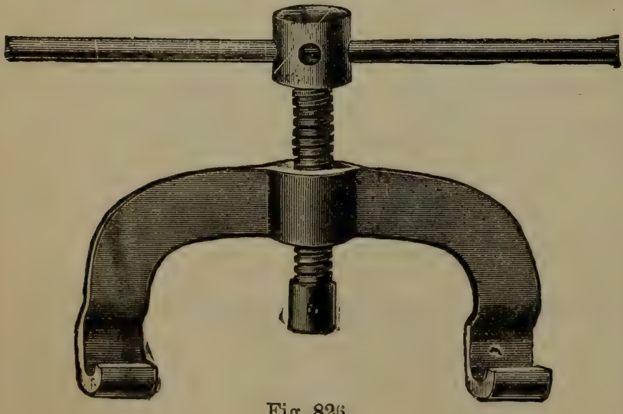


Fig. 826.

Number.	Diameter of Screw, in.	Span to Centre of Claw, in.	Weight with Lever, lbs.	For Steel Rails up to lbs. yd.	Price with Lever.
0	$1\frac{3}{4}$	14	45	14	$19.00
1	2	16	65	20	21.00
2	$2\frac{1}{4}$	20	100	45	30 00
3	$2\frac{1}{2}$	24	140	65	42 00
$3\frac{1}{2}$	$2\frac{5}{8}$	24	155	75	50 00
4	$2\frac{3}{4}$	24	185	90	59 00

TRACK DRILL.

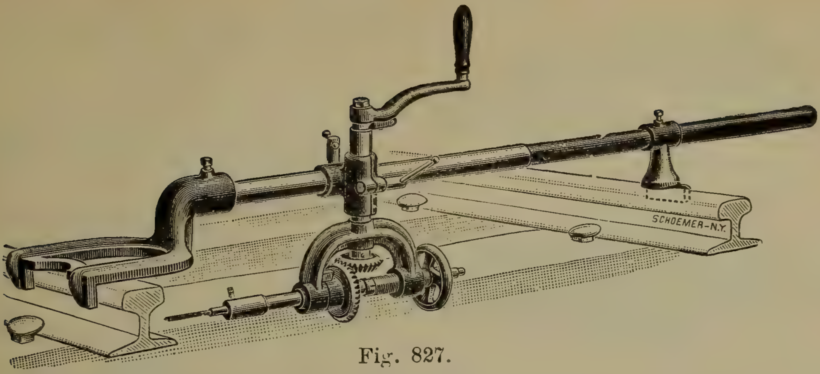


Fig. 827.

For drilling holes through rails for electric bonding wires, and for binding rods, etc. Engineers and others familiar with the work the Drill is intended for will at a glance see its utility and convenience. Two sets of gears go with each drill, making it either speeded or geared back. Twist Drills, with $\frac{1}{2}$ inch shank fit the hole in spindle.

A chuck is furnished with each machine which will hold Drills smaller than $\frac{1}{4}$ inch. It weighs 68 lbs., and will carry drills up to 1 inch, ... Price $25.00

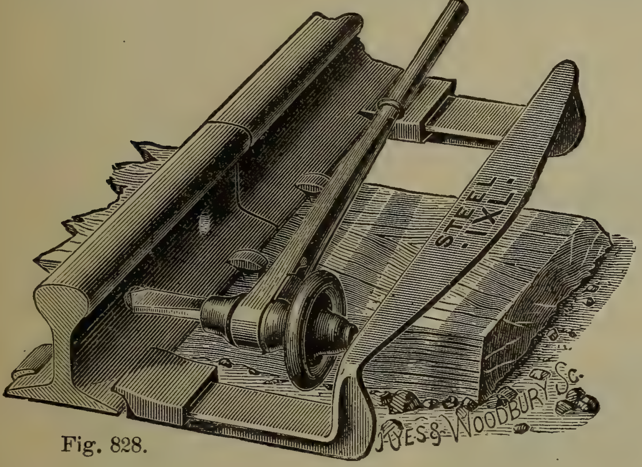


Fig. 828.

THE "IXL" TRACK DRILL AND CLAMP.

PRICE, COMPLETE, $8.00.

ALEXANDER CAR REPLACER.

No. 1,
Weight, per pair, 120 lbs.
6 inch Rail.
Price, per pair,
$17.00.

No. 2,
Weight, per pair, 100 lbs.,
5 inch Rail.
Price, per pair,
$16.00.

No. 3,
Weight, per pair, 50 lbs.
For Traction Roads.
Price, per pair,
$12.00.

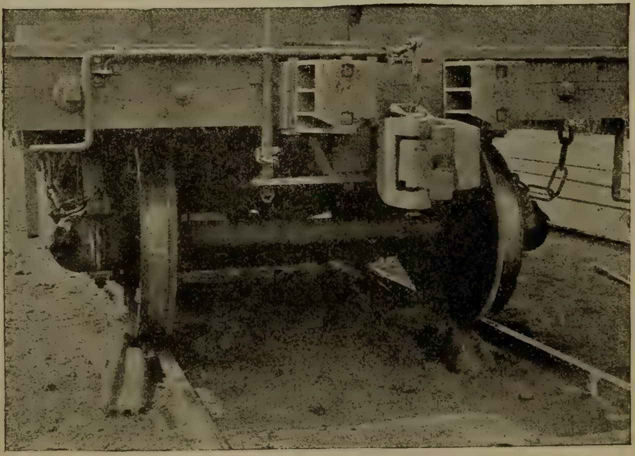


Fig. 829.

RAILROAD TRACK TOOLS.

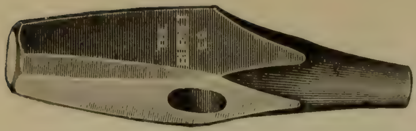


Fig. 830.

TRACK PUNCH, ROUND POINT.

For Punching Rails.

Solid Steel. Verona.

Per lb., 25 cts.

Made of Special Steel, carefully tempered and tested. Warranted.

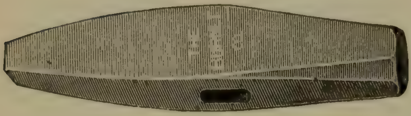


Fig. 831.

TRACK PUNCH, SQUARE POINT.

For Punching Rails.

Solid Steel. Verona.

Per lb., 25 cts.

Best Tool Steel. Warranted.

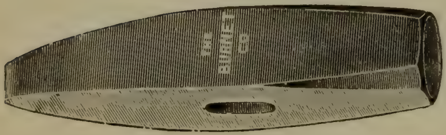


Fig. 832.

TRACK CHISEL.

For Cutting Rails.

Best Tool Steel. Verona.

Per lb , 25 cts.

Being made of Special Steel, and carefully tempered and tested, we guarantee it the best ever made.

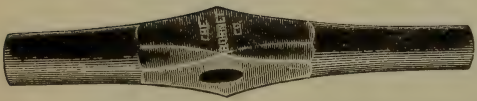


Fig. 833.

SPIKE MAUL, NEW PATTERN.

Solid Steel. Verona.

Per lb., 16 cts.

Any desired pattern or weight will be made, carefully tempered, and warranted.

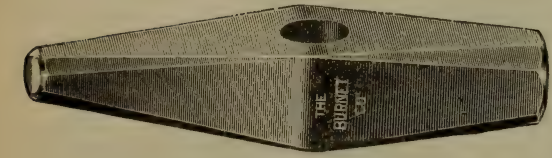


Fig. 834.

SPIKE MAUL, OLD STYLE.

Solid Steel. Verona.

Per lb., 16 cts.

Any desired pattern or weight will be made, carefully tempered, and warranted.

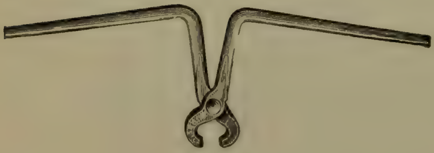


Fig. 835.

RAIL TONGS.

Solid Steel. Verona.

Per lb., 20 cts.

Warranted.

No. 1590 "YP" Tongs, per lb., 30 cts.

Weight 15 lbs.

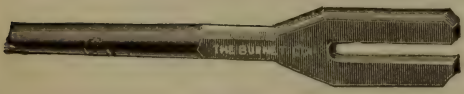


Fig. 836.

RAIL FORK.

Solid Steel. Verona.

Per lb., 20 cts.

No. 1600 "YP" Fork, per lb., 30 cts.

Weight, 14 lbs.

RAILROAD TRACK TOOLS.

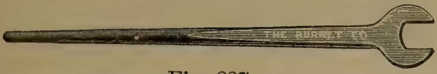


Fig. 837.

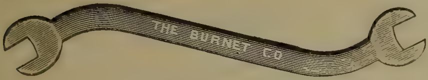


Fig. 838.

TRACK WRENCHES.

No. 51 Straight, pei lb.	. .	14 cts.
" 51 S Shape "	. .	22 cts.

Made of Solid Steel. Round or Flat Handle.

Drop Forge.

Always give size (opening) of Jaws wanted.

TRACK WRENCHES.

Drop-forged from Bar Steel.

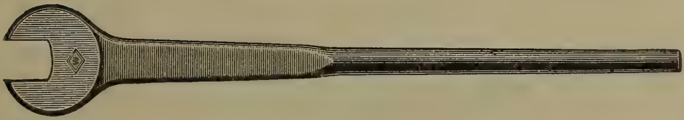


Fig. 839.

Furnished unfinished only.

Number.	Kind.	Outside Diameter of Nuts.	Openings.	Extreme Length.	Thickness Head.	Price, Each.
173	Single Head.	$1\frac{3}{16}$	$1\frac{1}{4}$	23	$\frac{3}{4}$	$ .60
174	" "	$1\frac{1}{4}$	$1\frac{5}{16}$	23	$\frac{3}{4}$	.60
175	" "	$1\frac{3}{8}$	$1\frac{7}{16}$	23	$\frac{3}{4}$	.60
176	" "	$1\frac{1}{2}$	$1\frac{9}{16}$	23	$\frac{3}{4}$	.60

Weight of Single Head, $3\frac{3}{4}$ lbs.

SPIKE PULLER.

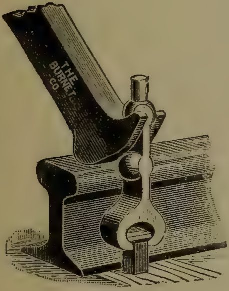


Fig. 840

Will draw spikes from between contiguous rails, guard rails, switches, frogs and platforms; can also be used on bridges and in tunnels and cuts; can be attached to any claw bar, and will bend the spike less than when pulled in the usual way. Is made of tempered steel, and is light, strong, durable and cheap.

Price per lb., 50 cents.

Fig. 841.

VERONA CLAW BAR.

No. 53, per lb. . . . 12 cts

Weight, 29 lbs. Length, 5 feet.

No. 1660 "YP" Claw Bar, per lb., 18 cts.

Weight, 28 to 30 lbs.

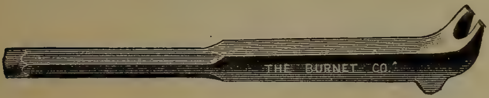


Fig. 842.

VERONA CLAW BAR.

No. 4, per lb. . . . 12 cts.

Weight, 29 lbs.

No. 1670 "YP" Claw Bar, per lb., 18 cts.

Weight, 28 to 30 lbs.

RAILROAD TRACK TOOLS.

LINING BAR.

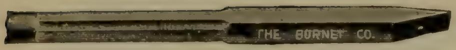

THE BURNET CO.

Fig. 843.

No. 31. Verona . Per lb., 10 cts.
Solid Steel. Any weight.
No. 1650. "Y P" . Per lb., 15 cts.
Weight, 20 to 24 lbs. Round Point.

PINCH BAR.

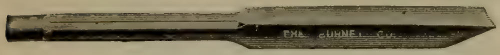

THE BURNET CO.

Fig. 844.

No. 32. . . . Per lb., 10 cts.
Solid Steel. Any weight.
No. 1620. "Y P" Pinch Bar
Per lb., 12 cts.
Weight, 12 to 30 lbs.

TAMPING BAR.

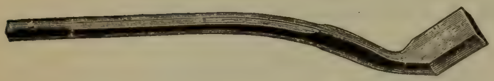


Fig. 845.

No. 33. . Per lb., 12 cts.
Solid Steel.
No. 1640. "Y P" Tamping Bar . . . Per lb , 18 cts.
Weight, 10 to 12 lbs.

THE VERONA TAMPING PICK.

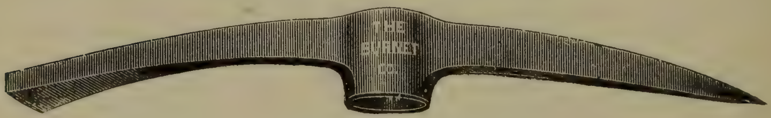

THE BURNET CO.

Fig. 846.

Solid Steel. Solid Eye. Warranted perfect in temper and quality.

No. 2. Tamping Pick, V Tamper, 7 and 7½ lbs. . . . Per doz., $12.00
" 3. " " T " 7 and 7½ lbs. . . . " " 12.00

"YP" BEST REFINED IRON AND STEEL POINTS.

RAILROAD V. TAMPING.

Nos.	Weight.	Doz. Price.
1720	6 to 7 lbs.	$17.00
1721	7 to 8 lbs.	18.00
1722	8 to 9 lbs.	19.00

RAILROAD T. TAMPING.

Nos.	Weight.	Doz. Price
1730	6 to 7 lbs.	$17.00
1731	7 to 8 lbs.	18.00
1732	8 to 9 lbs.	19.00

VERONA RAILROAD CLAY PICK.

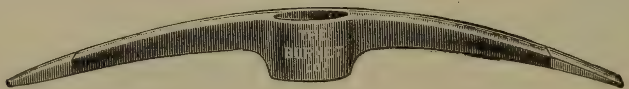

THE BURNET CO.

Fig. 847.

Solid Eye. Solid Steel. Warranted Perfect in Temper and Quality.

No. 7. Verona R. R. Clay Pick . . . . . . Per doz., $10.00

"YP" RAILROAD. BEST REFINED IRON AND STEEL POINTS.

Nos.	Weight.	Doz. Price.	Nos.	Weight.	Doz. Price.
1710	4 to 5 lbs.	$11.00	1714	8 to 9 lbs.	$16.00
1711	5 to 6 lbs.	12.00	1715	9 to 10 lbs.	18.00
1712	6 to 7 lbs.	13.00	1716	10 to 11 lbs.	20.00
1713	7 to 8 lbs.	14.00	1717	11 to 12 lbs.	22.00

Any Pattern of Pick made to order.

CLAY PICK. DIAMOND POINTED.

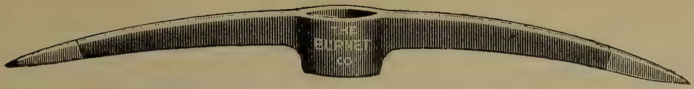


Fig. 848.

Made any weight or size desired. Carefully tempered. Warranted.
Solid Eye. Size of Eye, 3 x $1\frac{1}{16}$ inch.

No. 17. Verona, Clay Pick, Diamond Point . . . . Per doz., $10.00

"YP" CONTRACTORS' BEST REFINED IRON AND STEEL POINTS.

Nos.	Weight.	Doz. Price.	Nos.	Weight.	Doz. Price.
2030	7 lbs.	$18.00	2034	9 lbs.	$21.00
2031	7½ lbs.	18.50	2035	9½ lbs.	22.00
2032	8 lbs.	19.00	2036	10 lbs.	23.00
2033	8½ lbs.	20.00			

MINERS' PICK. CURVED.

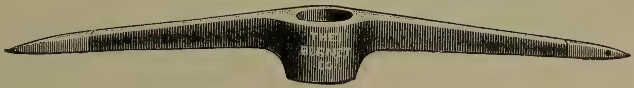


Fig. 849.

Made any weight desired, and warranted as to temper and quality.
Solid Eye. Size of Eye, 3 x $1\frac{1}{16}$ inch.

No. 19. Verona, Miners' Pick, Curved, any weight . . . Per lb., 20 cts.

"YP" DRIFTING. BEST REFINED IRON AND STEEL POINTS.

Nos.	Size.	Weight.	Doz. Price.	Nos.	Size.	Weight.	Doz. Price.
1750	1	3 lbs.	$12.50	1753	4	5 lbs.	$16.00
1751	2	4 lbs.	14.00	1754	5	6 lbs.	17.50
1752	3	4½ lbs.	15.00				

MINERS' PICK. SURFACE.

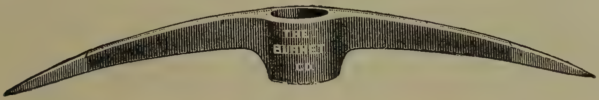


Fig. 850.

Made any weight desired, and warranted as to temper and quality.
Solid Eye. Size of Eye, 3 x $1\frac{1}{16}$ inch.

No. 20. Verona, Miners' Pick, Surface, any weight . . . Per lb., 20 cts.

"YP" SURFACE. BEST REFINED IRON AND STEEL POINTS.

One End Clay Pick, the other Diamond Point.

Nos.	Size.	Weight.	Doz. Price	Nos.	Size.	Weight.	Doz. Price.
1740	1	4 lbs.	$14.00	1744	5	6 lbs.	$18.00
1741	2	4½ lbs.	15.00	1745	6	6½ lbs.	19.00
1742	3	5 lbs.	16.00	1746	7	7 lbs.	20.00
1743	4	5½ lbs.	17.00				

LOCOMOTIVE COAL PICK.

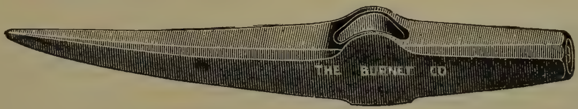


Fig. 851.

Made any desired weight. Warranted.

No. 26. Verona, Locomotive Coal Pick, any weight . . Per lb., 17 cts.

COAL PICK.

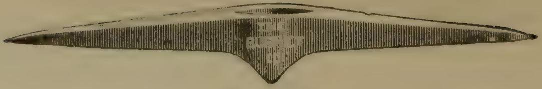


Fig. 852.

Made any weight. Warranted.

No. 21. Verona Coal Pick, any weight, per lb. . . . . . 25 cts.

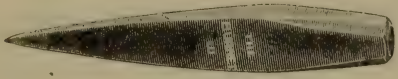


Fig. 853.

COAL WEDGE.

No. 42. Verona Coal Wedge, per lb. . . 10 cts.

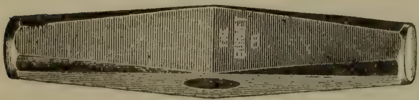


Fig. 854.

COAL MAUL.

No. 9. Verona Coal Maul, per lb. . . . 16 cts.

Solid Steel, 4 to 10 lbs.

Warranted to stand the hardest usage. Made any pattern or weight desired.

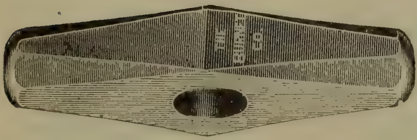


Fig. 855.

NAPPING HAMMER.

Verona Solid Steel.

No. 8. Napping Hammer, 4 lbs. and over, per lb. . 16 cts.

No. 8. Napping Hammer, under 4 lbs., per lb. . 20 cts.

Made any desired pattern or weight. Warranted.

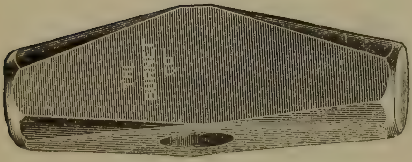


Fig. 856.

HAND-DRILLING HAMMER.

Verona Solid Steel.

No. 14. Hand-Drilling Hammer, 4 lbs. and over, per lb. . . 16 cts.

No. 14. Hand-Drilling Hammer, under 4 lbs., per lb. . . . 20 cts.

Made any weight desired, and warranted as to temper and quality.

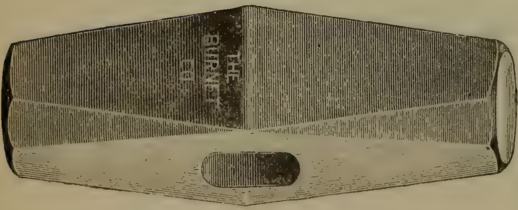


Fig. 857.

STRIKING HAMMER.

Verona Solid Steel.

No. 52. 4 lbs. and over, per lb. 16 cts.

No. 52. Under 4 lbs., per lb. 20 cts.

Any weight desired, and warranted.

DOUBLE-FACE STRIKING SLEDGE.

Fig. 858. Verona Solid Steel.

No. 15. 6 to 40 lbs., per lb. . 16 cts.

Any size, from 3 to 40 lbs.

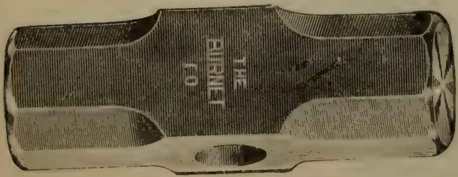


Fig. 858.

"YP" BLACKSMITHS' DOUBLE-FACE SLEDGE.

Solid Cast-Steel.

No.	Weight.	Per Lb.
1060	Under 3 lbs.	$0.45
1060	3 to 5 lbs.	.36
1060	5 lbs. and above.	.30

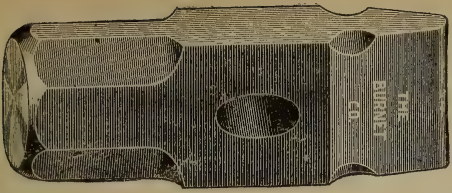


Fig. 859.

BLACKSMITHS' SLEDGE.

Verona. Cross Pein. Solid Steel.
Warranted.

No. 28. Smith Sledge, 6 to 26 lbs.; per lb. 16 cts.

Well balanced. Made any size or weight. Cross or Straight Pein as desired.

"YP" BLACKSMITHS' SLEDGES. SOLID CAST-STEEL.

	Cross Pein.			Straight Pein.	
No.	Weight.	Per Lb.	No.	Weight.	Per Lb.
1030	Under 3 lb.	$0.45	1040	Under 3 lb.	$0.45
1030	3 to 5 lb.	.36	1040	3 to 5 lb.	.36
1030	5 lb. and above.	.30	1040	5 lb. and above.	.30

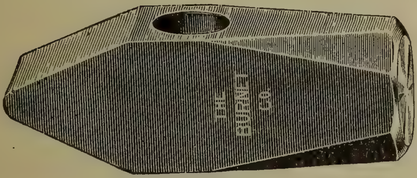


Fig. 860.

BLACKSMITH HAND HAMMER.

Verona. Solid Steel.

No. 60. Blacksmiths' Hand Hammer.
Per lb., 20 cts.

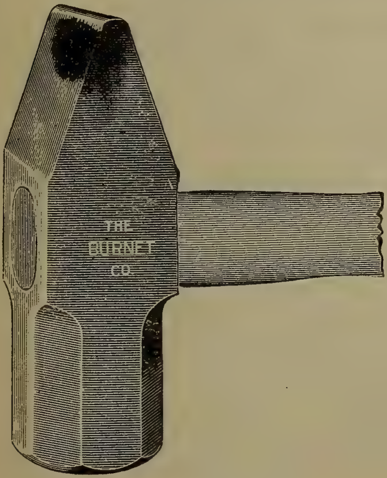
Any weight to order.

"YP" BLACKSMITHS' HAND HAMMERS, WITH HANDLES.

Nos.	Size.	Weight.	Per Doz.	Nos.	Size.	Weight.	Per Doz.
280	0	1 lb. 10 oz.	$13.00	283	3	3 lb.	$16.00
281	1	2 lb.	14.00	284	4	3 lb. 8 oz.	17.00
282	2	2 lb. 10 oz.	15 00	285	5	4 lb. 8 oz.	19.00

Weights do *not* include Handles.

"YP" ENGINEERS' HAMMERS. WITH HANDLES.



Solid Cast-Steel.

Nos.	Size.	Weight.	Per Doz.
260	0	1 lb. 2 oz.	$12.00
261	1	1 lb. 10 oz.	13.00
262	2	2 lb.	14.00
263	3	2 lb. 8 oz.	15.00
264	4	3 lb.	16.00
265	5	3 lb. 8 oz.	17.00
266	6	4 lb. 8 oz.	19.00

Fig. 861.

Weights do *not* include handles.

"YP" ENGINEERS' DOUBLE FACE HAMMERS WITH HANDLES.

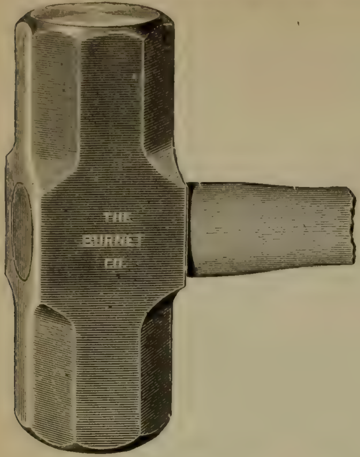


Fig. 862.

Solid Cast Steel.

Nos.	Size.	Weight.	Per Doz.
270	0	1 lb. 8 oz.	$14.50
271	1	2 lb.	15.50
272	2	2 lb. 6 oz.	16.50
273	3	3 lb.	18.00
274	4	3 lb. 10 oz.	19.50

Weights do *not* include handles.

DOUBLE FACE STONE HAMMER.

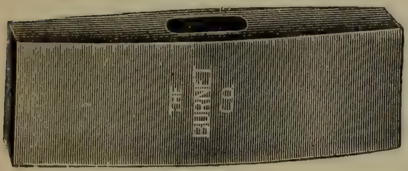


Fig. 863.

Verona. Warranted.

No. 11 Double Face, 4 lbs. and over, per lb. . . . . . . 19 cts.

No. 11 Double Face, under 4 lbs , per lb. . . . . . . 22 cts.

Made any weight or size desired. Carefully tempered.

MASON'S STONE HAMMER.

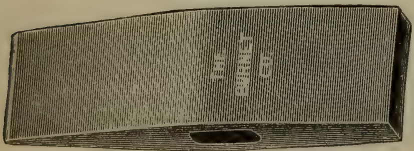


Fig. 864.

Verona. Solid Steel.

No. 10 Stone Hammer, 4 lbs. and over, per lb. . . . . 19 cts.

No. 10 Stone Hammer, under 4 lbs., per lb. . . . . . . 22 cts.

QUARRY SLEDGE.

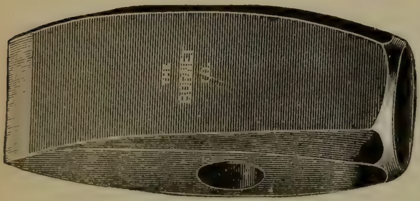


Fig. 865.

CUTTING EDGE.

Verona. Solid Steel. Oval Eye.

No. 12 Quarry Sledge, 6 to 24 lbs., per lb. . . . . . . 16 cts.

Made any desired weight. Warranted the best.

STONE SLEDGE.

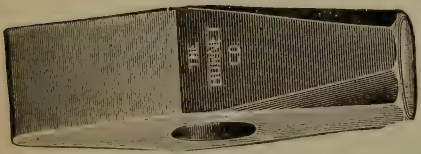


Fig. 866.

Verona. Solid Steel. Oval Eye.

No. 13. Stone Sledge, 6 to 24 lbs , per lb. . . . . . 16 cts.

Made any desired pattern or weight. Warranted.

"YP" STONE SLEDGES.—Solid Cast Steel.

No.	Weight.	Per Lb.
920	Under 3 lb.	$0.45
920	3 to 5 lb.	.36
920	5 lb. and above.	.30

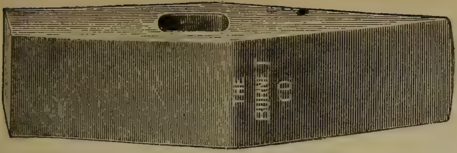


Fig. 867.

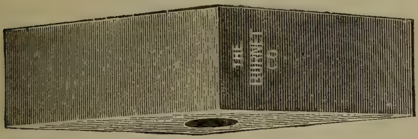


Fig. 868.

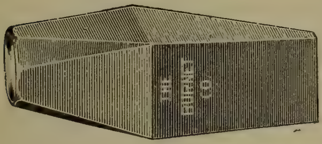


Fig. 869.

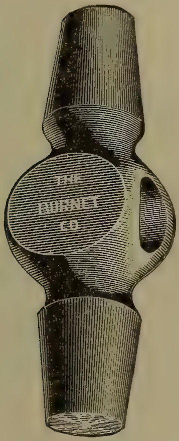


Fig. 870.

BOILERMAKERS' RIVETING HAMMERS.

Octagon Pattern Face and Pein.

Solid Cast Steel.

Fig. 871.

No.	Size.	Weight.	Per Doz.
2600	1	1 lb. 8 oz.	$14.50
2601	2	2 lb.	16.50
2602	3	2 lb. 8 oz.	19.00
2603	4	3 lb.	22.00

Weights do not include handles.

CAPPING OR SORTING HAMMER.

Verona.

No. 63. Capping or Sorting Hammer, . . per lb., $0.25

Double or Single Face. Any weight.

STONE AXE.

Verona. Solid Steel.

No. 43. Stone Axe, . per lb., $0.19

Any weight desired. Warranted.

STONE WEDGE.

Solid Cast Steel.

No.	Weight.	Per Lb.
1520	2 to 6 lb.	$0.25

BOILERMAKERS' HAMMERS.

Round Pattern.

Solid Cast Steel.

Fig. 870.

No.	Weight.	Per Lb.
1110	2 to 3 lb	$0.50

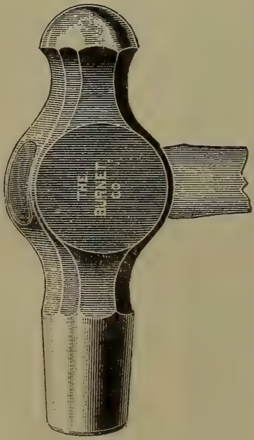


Fig. 871.

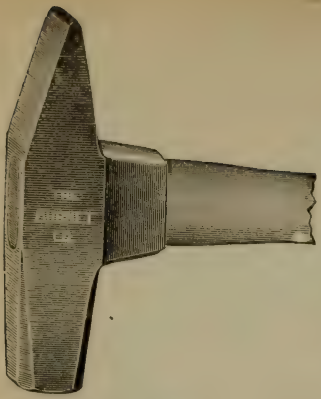


Fig. 872.

ADZE-EYE RIVETING HAMMERS.

Solid Cast steel.

Nos.	Size.	Weight.	Doz. Price.
240	1	6 oz.	$7.00
241	2	9 oz.	7.50
242	3	12 oz.	8.00
243	4	1 lb.	8.50
244	5	1 lb. 4 oz.	9.00

Weights do *not* include handles

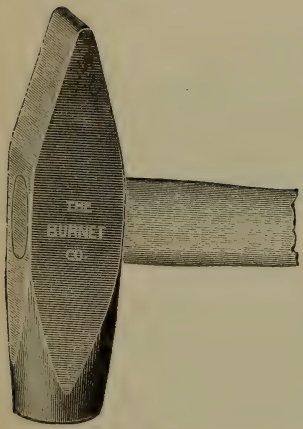


Fig. 873.

PLAIN EYE RIVETING HAMMERS.

Solid Cast-steel.

Nos.	Size.	Weight.	Doz. Price.
250	0	4 oz.	$5 50
251	1	7 oz.	5.75
252	2	9 oz.	6.00
253	3	12 oz.	6.25
254	4	15 oz.	6.50
255	5	1 lb. 2 oz.	7.00
256	6	1 lb. 6 oz.	7.50
257	7	1 lb. 10 oz.	8.00

Weights do *not* include handles.

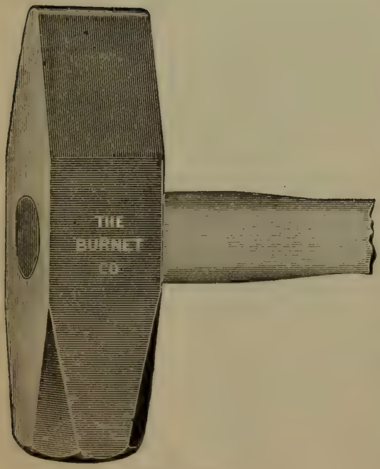


Fig. 874.

CHIPPING HAMMERS.

Solid Cast-steel.

Nos.	Size.	Weight.	Doz. Price.
300	0	1 lb.	$12.50
301	1	1 lb. 4 oz.	13.00
302	2	1 lb. 8 oz.	13.50
303	3	2 lb.	14.50
304	4	2 lb. 8 oz.	15.50
305	5	2 lb. 14 oz.	16.50

Weights do *not* include handles.

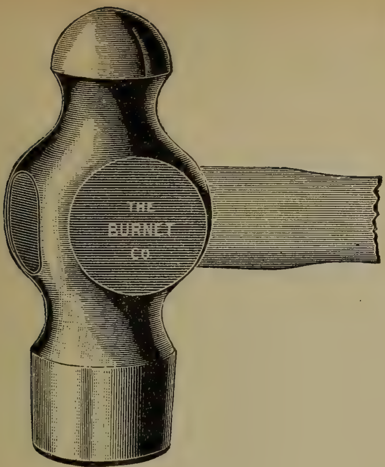


Fig. 875.

MACHINISTS' BALL PEIN HAMMERS.

ROUND PATTERN.

Full Polished. Solid Cast-steel.

Nos.	Size.	Weight.	Per Doz.
330	00	8 oz.	$15.00
331	0	12 oz.	15.00
332	1	1 lb. 8 oz.	17.50
333	2	2 lb.	19.50
334	3	2 lb. 4 oz.	20.50
335	4	2 lb. 8 oz.	22.00
336	5	3 lb.	25.00
337	6	3 lb. 8 oz.	27.00

Weights do *not* include handles.

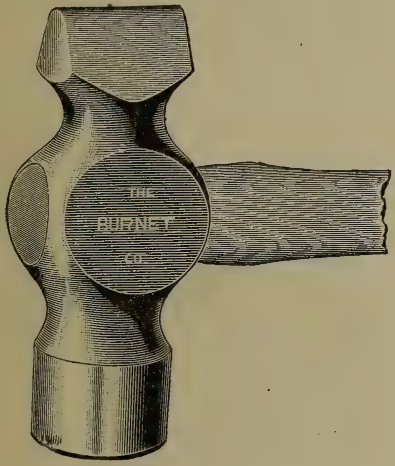


Fig. 876.

MACHINISTS' STRAIGHT PEIN HAMMERS.

ROUND PATTERN.

Full Polished. Solid Cast-steel.

Nos.	Size.	Weight.	Per Doz.
340	00	8 oz.	$15.00
341	0	12 oz.	15.00
342	1	1 lb. 8 oz.	17.50
343	2	2 lb.	19.50
344	3	2 lb. 4 oz.	20.50
345	4	2 lb. 8 oz.	22.00
346	5	3 lb.	25.00
347	6	3 lb. 8 oz.	27.00

Weights do *not* include handles.

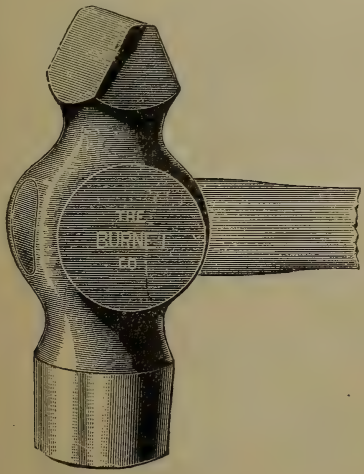


Fig. 877.

MACHINISTS' CROSS PEIN HAMMERS.

ROUND PATTERN.

Full Polished. Solid Cast steel.

Nos.	Size.	Weight.	Per Doz.
350	00	8 oz.	$15.00
351	0	12 oz.	15.00
352	1	1 lb. 8 oz.	17.50
353	2	2 lb.	19.50
354	3	2 lb. 4 oz.	20.50
355	4	2 8 oz.	22.00
356	5	3 lb	25.00
357	6	3 lb. 8 oz.	27 00

Weights do *not* include handles.

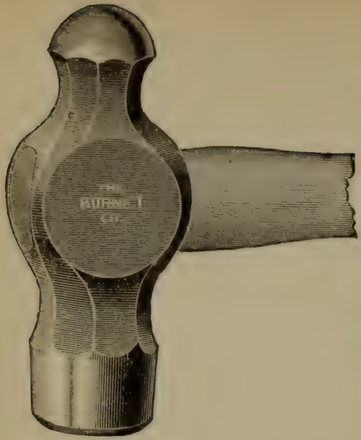


Fig. 878.

MACHINISTS' HAMMERS, SOLID CAST-STEEL.

OCTAGON PATTERN. BALL PEIN.

Nos.	Size.	Weight.	Per Doz.
370	4/0	6 oz.	$12.00
371	3/0	8 oz.	12 00
372	2/0	12 oz.	12.00
373	0	1 lb.	12.50
374	1	1 lb. 4 oz.	13.50
375	2	1 lb. 8 oz.	14.50
376	3	1 lb. 12 oz.	15.50

Nos.	Size.	Weight.	Per Doz.
377	4	2 lb.	$16.50
378	5	2 lb. 4 oz.	17.50
379	6	2 lb. 8 oz.	19.00
380	7	2 lb. 12 oz.	20.50
381	8	3 lb.	22.00
382	9	3 lb. 8 oz.	24.00

POLISHED SIDES, FACE AND PEIN.

Weights do *not* include handles.

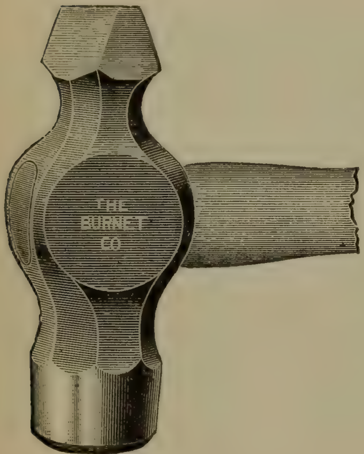


Fig. 879.

MACHINISTS' HAMMERS, SOLID CAST-STEEL.

OCTAGON PATTERN. CROSS PEIN.

Nos.	Size.	Weight.	Per Doz.
410	4/0	6 oz.	$12.00
411	3/0	8 oz.	12.00
412	2/0	12 oz.	12 00
413	0	1 lb.	12.50
414	1	1 lb. 4 oz.	13.50
415	2	1 lb. 8 oz	14.50
416	3	1 lb. 12 oz.	15.50

Nos.	Size.	Weight.	Per Doz.
417	4	2 lb.	$16.50
418	5	2 lb. 4 oz.	17.50
419	6	2 lb. 8 oz.	19.00
420	7	2 lb. 12 oz.	20.50
421	8	3 lb.	22.00
422	9	3 lb. 8 oz.	24.00

POLISHED SIDES, FACE AND PEIN.

Weights do *not* include handles.

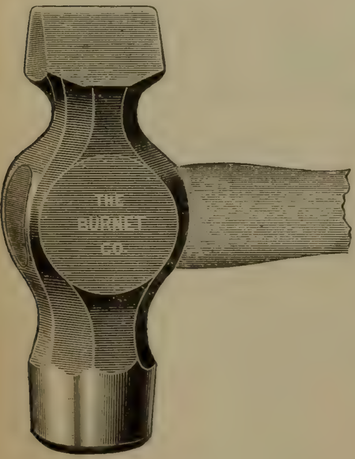


Fig. 880.

MACHINISTS' HAMMERS, SOLID CAST-STEEL.

OCTAGON PATTERN. STRAIGHT PEIN.

Nos.	Size.	Weight.	Per Doz.
390	4/0	6 oz	$12.00
391	3/0	8 oz.	12 00
392	2/0	12 oz.	12.00
393	0	1 lb.	12.50
394		1 lb. 4 oz.	13.50
395	2	1 lb. 8 oz.	14.50
396	3	1 lb. 12 oz	15 50

Nos.	Size	Weight.	Per Doz.
397	4	2 lb.	$16.50
398	5	2 lb 4 oz.	17.50
399	6	2 lb. 8 oz.	19 00
400	7	2 lb. 12 oz.	20.50
401	8	3 lb.	22.00
402	9	3 lb. 8 oz.	24.00

POLISHED SIDES, FACE AND PEIN.

Weights do *not* include handles.

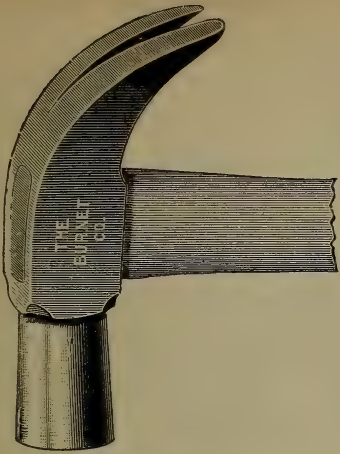

THE BURNET CO.

Fig. 881.

"YP" PLAIN EYE NAIL HAMMERS.

Solid Cast-steel.

Nos.	90	91	92	93	94
Size	0	1	2	3	4
Weight,	7 oz.	12 oz.	15 oz.	1 lb. 2 oz.	1 lb. 8 oz
Per Doz.	$6.25	6.50	6.75	7.00	8.00

Weights do *not* include handles.

VULCAN PLAIN EYE NAIL HAMMERS.

Solid Cast-steel.

Nos.	120	121	122	123
Size	1	2	3	4
Weight	12 oz.	15 oz.	1 lb. 2 oz.	1 lb. 8 oz.
Per Doz.	$5.50	5.75	6.00	7.00

Weights do *not* include handles.

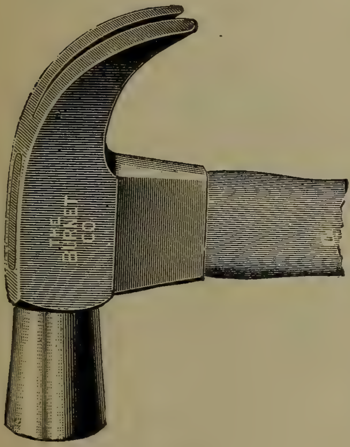

THE BURNET CO.

Fig. 882.

"YP" ADZE-EYE NAIL HAMMERS.

Solid Cast-steel

Nos.	70	71	72	73	74
Size	0	1	1½	2	3
Weight,	1 lb. 12 oz.	1 lb. 4 oz.	1 lb.	13 oz.	7 oz.
Doz. Price,	$12.50	9.00	8.50	8.00	7 50

Weights do *not* include handles.

MAYDOLE'S ADZE-EYE HAMMERS.

Solid Cast-steel.

No.	0	1	1½	2	3
Weight,	1 lb. 10 oz.	1 lb. 4 oz.	1 lb.	13 oz.	7½ oz.
Per Doz.	$11.50	8.75	8.00	7.50	6.75

Above weights do *not* include handles.

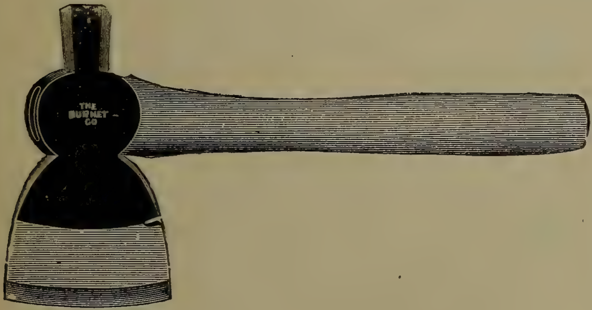


Fig. 883.

SHINGLING HATCHETS.

Cast-steel. Warranted.

Nos.	Size.	Weight.	Width of bit,	Doz. Price.
590	0	13 oz	3¼ in.	$7.50
591	1	1 lb. 1 oz.	3½ in.	8.00
592	2	1 lb. 7 oz	4 in.	8.50
593	3	1 lb. 13 oz.	4½ in.	9.00
594	4	2 lb. 3 oz.	4¾ in.	9.50

Weights do *not* include handles.

LATH HATCHETS.

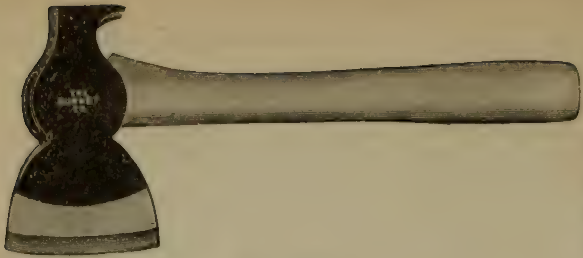
No.	1	2	3
Length of cut, inch	2½	2¾	3
Per dozen	$8.00	8.50	9.00

HALF HATCHETS.

No.	1	2	3
Length of cut, inch	3¼	3¾	4¼
Per dozen	$8.50	9.00	9.50

CLAW HATCHETS.

SOLID CAST-STEEL.



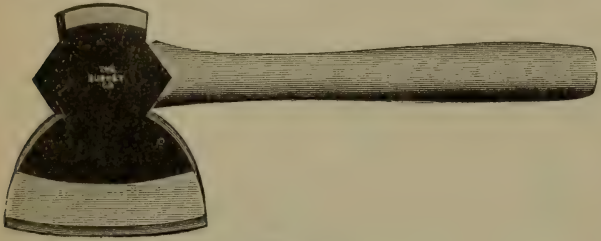
Nos.	Size.	Weight.	Width of Bit.	Per Doz.
510	1	1 lb. 3 oz	3½ in.	$11.50
511	2	1 lb. 9 oz	4 in.	12.00
512	3	1 lb. 15 oz.	4½ in.	12.50

Fig. 884.

Weights do *not* include handles.

OGDEN CLAW HATCHETS.

No.	1	2	3
Length of cut, inch	3½	3⅞	4⅜
Per dozen	$9.00	9.50	10.00



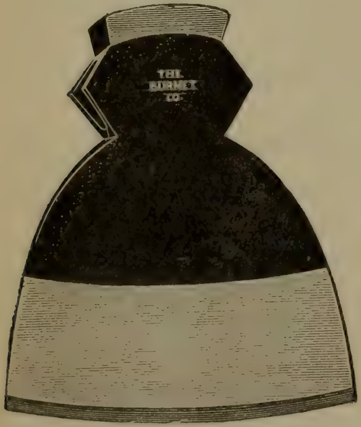
BROAD HATCHETS.

CAST-STEEL.

Fig. 885.

Nos.	2240	2241	2242	2243	2244	2245	2246	2247
Size	1	2	3	4	5	6	7	8
Weight	1 lb. 8 oz.	1 lb. 12 oz.	2 lb. 2 oz.	2 lb. 8 oz.	2 lb. 14 oz.	3 lb. 4 oz.	3 lb. 12 oz.	4 lb. 4 oz.
Width of bit	4 in.	4½ in.	5 in.	5½ in.	6 in.	6½ in.	7 in.	7½ in.
Per doz.	$10.50	11.50	13.00	14.50	16.50	18.00	19.50	22.00

Weights do *not* include handles.



BROAD AXES, OHIO PATTERN.

CAST-STEEL.

Nos.	Assorted.	Per Doz.
680	5 to 6½ lb.	$32.00
681	6 to 7 lb.	32.00
682	6½ to 7½ lb.	32.00
683	7 to 8 lb.	35.00
684	7½ to 8½ lb.	35.00
685	7 to 9 lb.	35.00
686	8 to 9 lb.	38.00
687	8½ to 9½ lb.	38.00
688	8 to 10 lb.	38.00

Weights assorted as wanted.

Fig. 886.

WESTERN PATTERN.

5½ to 7 lbs. Per dozen . $32.00

NEW YORK PATTERN.

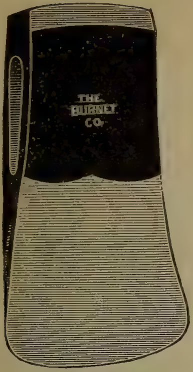
5 to 7 lbs. Per dozen . $32.00

PENNSYLVANIA OR PITTSBURGH PATTERN.

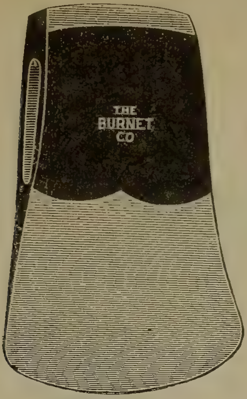
6 to 7½ lbs. Per dozen $32.00

Cut illustrates New York pattern.

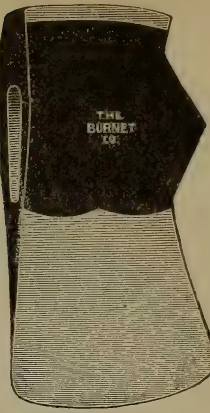
BEST CAST-STEEL AXES.



YANKEE.
Fig. 887.



WESTERN.
Fig. 888.



KENTUCKY.
Fig. 889.

3 to 4, 3¼ to 4¼, 3½ to 4½ pounds,	per	dozen	$
3¾ to 4¾, 4 to 5, 4¼ to 5¼	“	“	
4½ to 5½, 4½ to 6	“	“	
5 to 6	“	“	

HANDLED AXES.

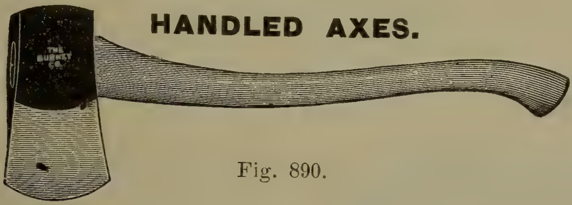


Fig. 890.

3½ to 4½, 4 to 5 pounds, per dozen	$16.50
4½ to 5½ “ “	17.00
Solid Steel, 3½ to 4½, 4 to 5 pounds, per dozen	20.00

HUNTERS' HANDLED CAST-STEEL AXES.

Nos.	Size.	Weight.	Per Doz.
670	1	1 lb. 8 oz.	$10.00
671	2	1 lb. 12 oz.	11.00

Weights do *not* include handles.

D. & B. SCYTHE SNATHS.

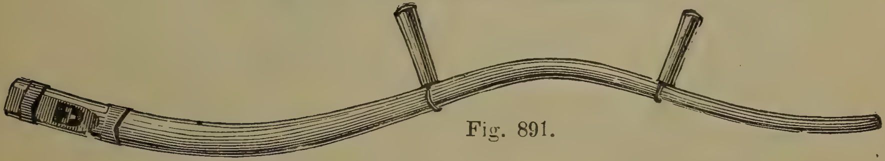


Fig. 891.

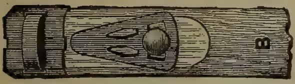


Fig. 892

No. 45.	Brass Trimmed, per doz.	$12.75
“ 50.	Iron “ “	12.00

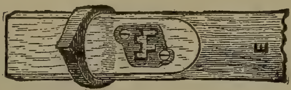


Fig. 893.

No. 75.	Brass Trimmed, per doz.	$10.00
“ 85.	Iron “ “	9.50

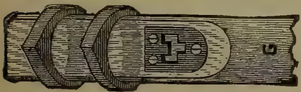


Fig. 894.

DOUBLE RING BUSH.

No. 100. Iron Trimmed, per doz. . $12.50

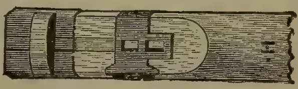


Fig. 895.

PATENT LOOP BUSH.

No. 105. Iron Trimmed, per doz. . $13.50

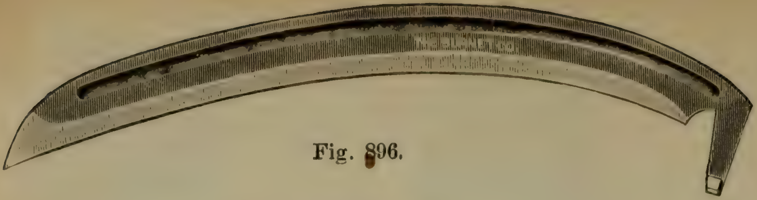


Fig. 896.

GRASS AND WEED SCYTHES.

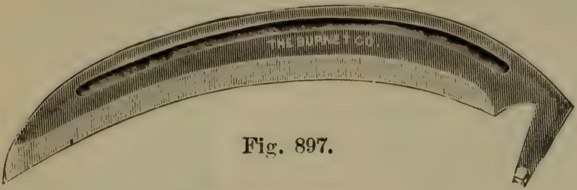


Fig. 897.

BUSH SCYTHES.

GRASS SCYTHES.

No 23. Clipper, Polished Web, per dozen $9.00

No. 22. Clipper, Bronzed Web, per dozen 8.75

No. 26. Dutchman, per doz. . 8.50

One dozen in a box. Lengths, 24 to 42 inch.

Stock assortments, 32 to 36 inch, 36 to 40 inch, 38 to 42 inch.

WEED SCYTHES.

No. 52. Red, Cast Steel, per doz. $8.22

" 052. R. & M., German Steel, per doz 6.00

BUSH SCYTHES.

No. 50. Red or Green, Cast Steel, per doz. 8.22

No. 050. R. & M., German Steel, per doz. 6.00

Half dozen in a bundle.

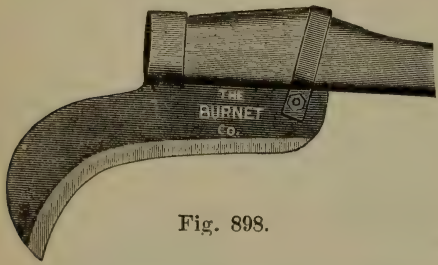


Fig. 898.

BUSH HOOK AXE HANDLE.

Cast Steel.

Nos.	Weight.	Per Doz.
790	Light.	$14.50
791	Medium.	15.00
792	Extra Heavy.	17.00

Price includes handle.

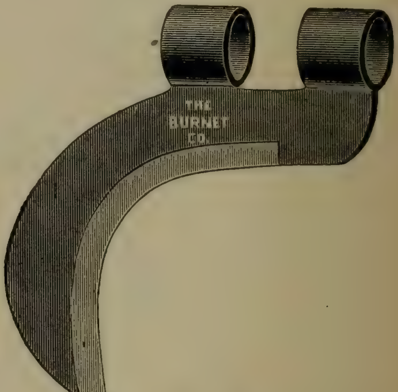


Fig. 899.

BUSH HOOK.

Two Rings, Cast Steel.

No. 810, per doz. . . . $14.00

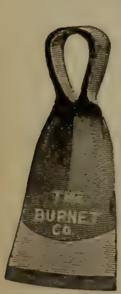


Fig. 900.

GRUB HOE.

Best Refined Iron and Steel Bits.

Nos.	Size.	Average Weight.	Size Hoe.	Per Doz.
1820	0	3 lbs.	10½ x 3½ in.	$10.50
1821	1	3½ lbs.	10¾ x 3¾ in.	11.00
1822	2	4 lbs.	11¼ x 4 in.	11.50
1823	3	4½ lbs.	11½ x 4¼ in.	12.00

MATTOCKS.

LONG AND SHORT CUTTER.

Fig. 901.

Best Refined Iron and Steel Cutters.

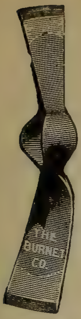


Fig. 901.

	Nos.	Average Weight.	Size Hoe.	Size Cutter.	Per Doz.
Long Cutter,	1790	6 lbs.	8½ x 4¼ in.	6 x 3½ in.	$16.00
Short "	1800	5½ lbs.	8¼ x 4¼ in.	4½ x 3½ in.	15.50

LIGHT PATTERN.

Fig. 901.

	Nos.	Average Weight.	Size Hoe.	Size Cutter.	Per Doz.
Long Cutter,	2040	5 lbs.	8¼ x 3½ in.	5¾ x 3 in.	$15.00
Short "	2050	5 lbs.	8¼ x 3½ in.	4½ x 3 in.	15.00

MATTOCK PICK.

Fig. 902.

Best Refined Iron with Steel Point and Cutter.

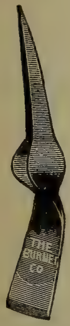


Fig. 902.

No.	Average Weight.	Size Hoe.	Size Pick End.	Per Doz.
1810	6 lbs	8½ x 4¼ in.	8½ in.	$16.00

STONE OR BALLAST FORK.

Solid Steel Shanks, Patent Solid Ends, Strapped Capped Ferrules.

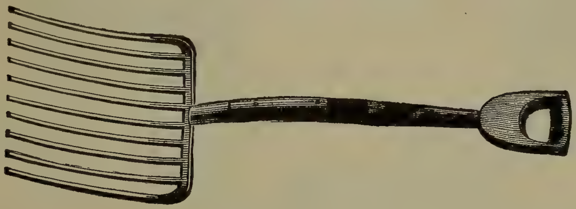


Fig. 903.

Number of Tines	8	10	12	14
Length " " inches . . .	15	15	15	15
Per dozen	$20.00	25.00	30.00	33.00

COKE FORKS.

Number of Tines . .	10	12	12	14	14	16	16
Length " " inches .	17½	17½	17½	17½	18	17½	17½
Width of Forks, " .	14½	18	16	18	20½	18	19½
Per dozen. . . .	$24.00	28.00	28.00	33.00	33.00	40.00	40.00

To get width of Fork measure across at the centre.

TANNERS' FORKS.

OVAL BRIGHT.

Number of Tines	10	12
Per dozen	$26.00	30.00

CARPENTERS' ADZES.

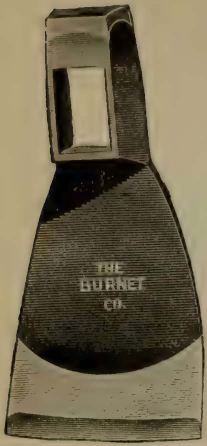


Fig. 904.

CARPENTERS' FULL HEAD, STEEL POLES.

No.	Width of Cut.	Per Doz.
750	$3\frac{1}{2}$ to $4\frac{1}{2}$ in.	$24 00

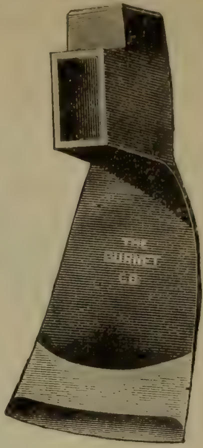


Fig. 905.

CARPENTERS' HALF HEAD, STEEL POLES.

No.	Width of Cut.	Per Doz.
740	$3\frac{1}{2}$ to $4\frac{1}{2}$ in.	$24.00

RAILROAD ADZES.

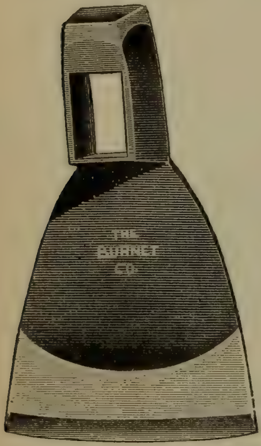


Fig. 906.

RAILROAD, FULL HEAD, STEEL POLES.

No.	Width of Cut.	Per Doz
770	5 to $5\frac{1}{2}$	$26.00
771	$5\frac{3}{4}$ to 6	27.00

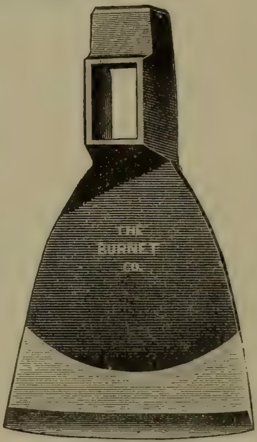


Fig. 907

RAILROAD, HALF HEAD, STEEL POLES.

No.	Width of Cut.	Per Doz.
760	5 to $5\frac{1}{2}$	$26.00
761	$5\frac{3}{4}$ to 6	27.00

FELLOE WEBS, THIN BACKS.

Fig. 908.

Length, Inches.	Gauge.	Inches Wide.	Per Dozen.	Length, Inches.	Gauge.	Inches Wide.	Per Dozen.
6	19	$\frac{3}{16}$ to $\frac{1}{2}$	$1.30	22	17	$\frac{1}{4}$ to $\frac{3}{4}$	$3.30
7	19	$\frac{3}{16}$ to $\frac{1}{2}$	1.35	24	17	$\frac{1}{4}$ to $\frac{7}{8}$	3.65
8	19	$\frac{3}{16}$ to $\frac{1}{2}$	1.45	26	17	$\frac{1}{4}$ to $\frac{7}{8}$	4.00
10	18	$\frac{3}{16}$ to $\frac{1}{2}$	1 60	28	17	$\frac{1}{4}$ to 1	4.40
12	18	$\frac{1}{4}$ to $\frac{1}{2}$	1.85	30	16	$\frac{1}{4}$ to 1	4.80
14	17	$\frac{1}{4}$ to $\frac{1}{2}$	2.10	32	16	$\frac{1}{4}$ to 1	5.20
16	17	$\frac{1}{4}$ to $\frac{5}{8}$	2.35	34	16	$\frac{1}{4}$ to 1	5.60
18	17	$\frac{1}{4}$ to $\frac{5}{8}$	2.70	36	16	$\frac{1}{4}$ to 1	6.00
20	17	$\frac{1}{4}$ to $\frac{3}{4}$	3 00				

One extra gauge in thickness, no extra charge. Five per cent. extra for each additional gauge to 14 gauge. Above 14 gauge, special prices. Extra widths, 10 per cent. for each additional $\frac{1}{8}$ inch wide.

N. B.—All Web Saws $\frac{1}{8}$ inch and narrower will be made with wide ends, in order to give strength at the hole. Price, 25 per cent. advance.

STARRETT HACK SAW BLADES.

Length, inches	6	7	8	9	10	11	12	14	16
Width, inches	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
Number of Teeth	15	15	15	15	15	15	13	13	13
Per dozen	$0.55	.60	.65	.70	.85	.95	1.05	1.25	1 50

STUBS HACK SAW BLADES.

Length, hole to hole, inches	4	6	8	10	12	13	14	16
Per dozen	$1.50	2.00	3 00	4.00	5.00	5.50	6.00	8.00

STAR HACK SAW BLADES.

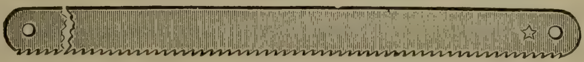


Fig. 909.

								Assorted.
Length of Blade	6	7	8	9	10	11	12	6 to 9
Price, per dozen	$0.55	.60	.65	.70	.85	.95	1.05	.65

The blades in the above list are standard goods, with 14 teeth to the inch. We also furnish the 8, 9, 10, 11 and 12 inch blades with 23 teeth to the inch, for cutting tubing and thin sheets of metal, the prices of each kind being the same. In filling orders, we shall always put in the coarse blades, unless the fine ones are particularly named.

PATENT STAR HACK SAW FRAMES.

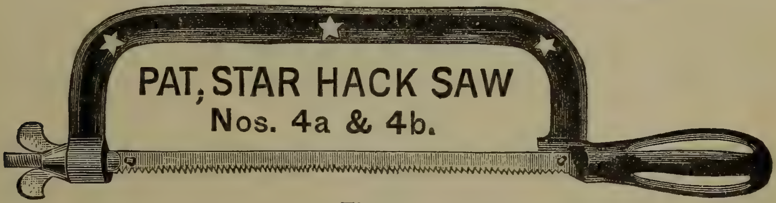


Fig. 910.

This No. 4 is a Patent Cast Iron Frame, and so constructed as to face blades in four different directions. It is a very stiff and desirable Frame with Japan finish.

No. 4A, for 8-inch blades	Per dozen, $3.00
No. 4B, for 9-inch blades	" 3.00

PATENT STAR HACK SAW FRAME.

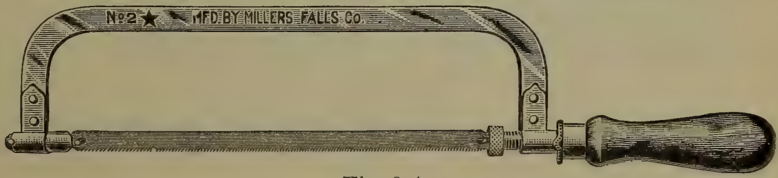

No2 ★ MFD. BY MILLERS FALLS Co.

Fig. 9 1.

No. 2, solid Frame. To hold 8-inch blades only, and face them in four directions. Polished and nickel-plated. Cocobola handle.

Price, . . Per dozen, $8.40.

EXTENSION STAR HACK SAW FRAME.

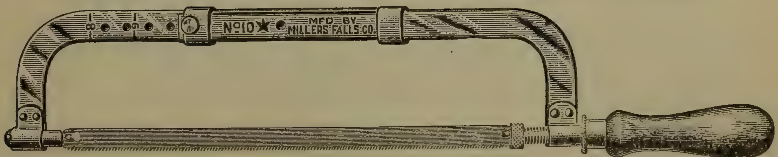

No10 ★ MFD BY MILLERS FALLS CO.

Fig. 912.

It is light and quickly adjusted, having strength in the middle, where strength is needed. It is made of tempered steel, polished and nickel-plated. The handles are Cocobola wood, highly finished. It carries blades 6, 7, 8, 9, 10, 11 and 12 inches long, and is marked for the different lengths.

Price, . . Per dozen, $12.00.

JENNINGS' HAND PANEL RIP SAWS.

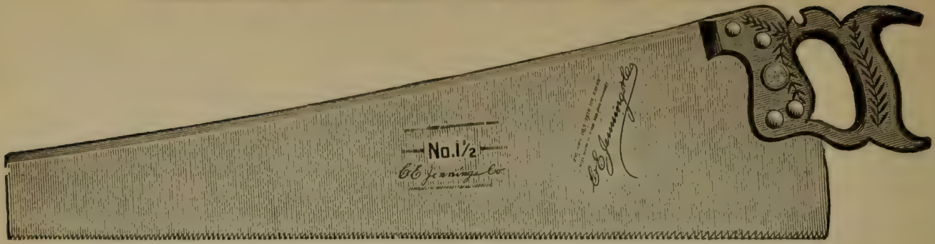


Fig. 913

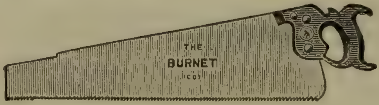
Patent Ground and Tempered, Hand Hammered and Hand Filed, and set ready for use. They are *fully warranted.* We will exchange them if found defective in any particular. These Saws are made from Extra Refined Spring Steel, Polished Blades, Taper Ground, Thin Back, Carved and Polished Apple Handles. Four Improved Brass Screws; 28 and 30 inch have five Improved Brass Screws.

Size, inch .	16	18	20	22	24	26	28	30
Per dozen .	$14.50	16.00	17.50	19 50	21.00	22.00	25.00	28.00

HAND, PANEL AND RIP SAWS.

Disston's

No. D8.



5 Improved

Screws.

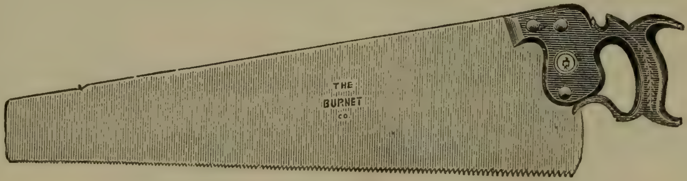
Fig. 914.

SKEW BACK, SPRING STEEL WARRANTED, APPLE HANDLE, POLISHED EDGE, PATENT GROUND AND TEMPERED.

Length, inches .	16	18	20	22	24	26	28	30
Per dozen . .	$18.00	20.00	22.00	24.00	26.00	28.00	32.00	37.00

Disston's

No. 7.



4

Improved

Screws.

Fig. 915.

BEECH HANDLE, POLISHED EDGE, GRAINED BLADE, CAST-STEEL, WARRANTED.

Length, inches .	14	16	18	20	22	24	26	28	30
Per dozen . .	$12.00	13.00	14.00	16.00	18.00	19.00	20 00	23 50	27.00

All above Saws one-third dozen in a box.

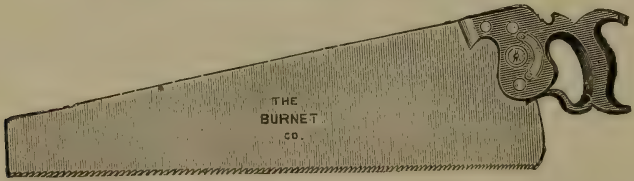


Fig. 916.

No. 1893. SKEW BACK, LONDON SPRING STEEL, APPLE HANDLE, CARVED AND POLISHED, 4 BRASS SCREWS, NICKEL-PLATED, REINFORCED PLATE, WARRANTED.

Length, inches .	16	18	20	22	24	26	28
Per dozen . .	$14.50	15.50	16.50	18.50	20.00	21.00	24.00

One-third dozen in a box.

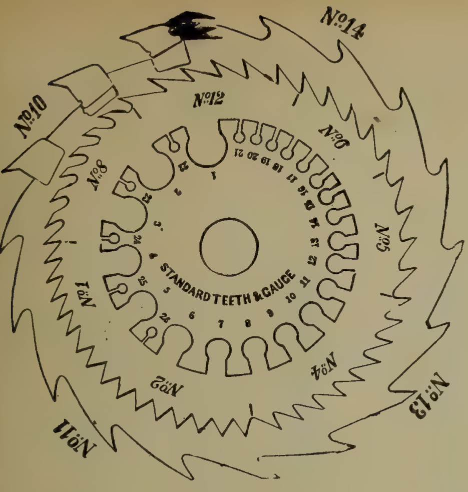


Fig. 917.

CIRCULAR SAWS.

Of Extra Quality, Superior Workmanship, and Guaranteed as per Warranty.

STANDARD GAUGE.

Exactly corresponds with the Stubb's English Gauge.

Guage No.	4	¼ inch	scant.
" "	5	7/32 "	
" "	6	13/64 "	
" "	7	3/16 "	scant.
" "	8	5/32 "	full.
" "	9	5/32 "	scant.
" "	10	⅛ "	full.
" "	11	⅛ "	scant.
" "	12	7/64 "	
" "	13	3/32 "	
" "	14	5/64 "	full.
" "	15	5/64 "	scant
" "	16	1/16 "	full.

Circular Saw Mandrels furnished with Pulleys on the end or in centre.

The above illustration represents the various styles and Nos. of Saw Teeth; also the Standard Gauge. By consulting it parties will be enabled to inform us the size and style of tooth, and also the gauge of any Saw they may desire.

Diameter, Inch.	Thickness, Gauge.	Size of Hole.	Price, Each.	Extra for each Additional Gauge (Heavier).	Diameter, Inch.	Thickness, Gauge.	Size of Hole.	Price, Each.	Extra for each Additional Gauge (Heavier).
1	21	⅜	$0.50	$0.01	32	10	1⅝	$20.00	$1.00
1½	24	⅜	.55	.01	34	9	1⅝	22.50	1.20
2	23	⅜	.60	.01½	36	9	1⅝	25.50	1.40
2½	22	⅜	.65	.02	38	9	1⅝	30.00	1.75
3	21	½	.70	.02½	40	9	2	35.00	2.00
3½	20	½	.80	.03	42	8	2	42.00	2.50
4	19	¾	1.00	.03	44	8	2	50.00	3.00
5	19	¾	1.20	.04	46	8	2	60.00	3.50
6	18	¾	1.40	.05	48	8	2	70.00	4.00
7	18	¾	1.70	.06	50	7	2	80.00	4.50
8	18	⅞	2.00	.08	52	7	2	90.00	5.00
9	17	⅞	2.50	.10	54	7	2	100.00	6.00
10	16	1	3.00	.12	56	7	2	115.00	7.00
11	16	1	3.50	.14	58	7	2	130.00	8.00
12	15	1	3.75	.17	60	6	2	145.00	9.00
14	15	1⅛	4.50	.21	62	6	2	160.00	10.00
16	14	1⅛	5.50	.25	64	6	2	180.00	12.00
18	13	1¼	7.00	.30	66	6	2	200.00	15.00
20	13	1 5/16	8.50	.35	68	5	2	225.00	18.00
22	12	1 5/16	10.00	.45	70	5	2	255.00	21.00
24	11	1⅜	12.00	.55	72	5	2	290.00	24.00
26	11	1⅜	14.00	.65	74	5	2	330.00	27.00
28	10	1½	16.00	.80	76	5	2	375.00	30.00
30	10	1½	18.00	.90					

Grooving Saws, special prices. Circular Saws to cut Bone or Ivory, 50 per cent. advance. No extra charge for Saws one guage thicker than List. Circular Saws beveled one gauge without extra charge. When not otherwise specified, Saws will always be sent of above gauge and size of hole.

CROSS-CUT SAWS.

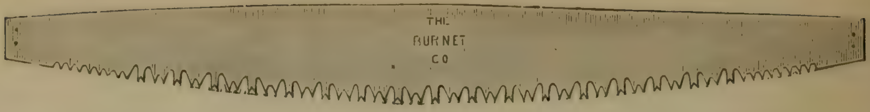


Fig. 918.

No. 1.	Champion.	4 gauges thinner on back than on teeth .	Per foot, $0.60
" 2.	"	2 " " " " .	" " 0.54

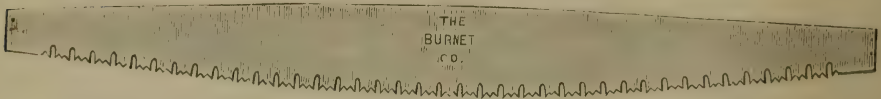


Fig. 919.

Great American. 4 gauges thinner on back than on teeth . Per foot, $0.68

CHAMPION TOOTH ONE MAN SAWS.

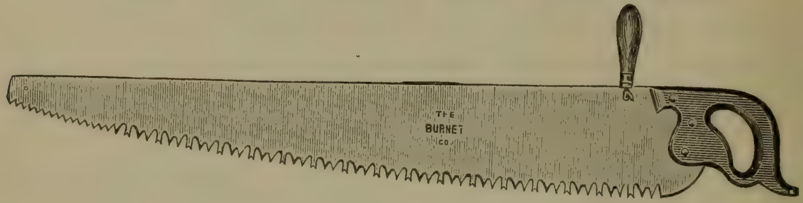


Fig. 920.

Feet .	3	3½	4	4½	5	5½	6
Each .	$2.25	2.60	3.00	3.35	3.70	4.10	4.45

Plain, Tuttle, and Tenon tooth, same price as Champion.

GREAT AMERICAN ONE MAN SKEW-BACK SAWS.

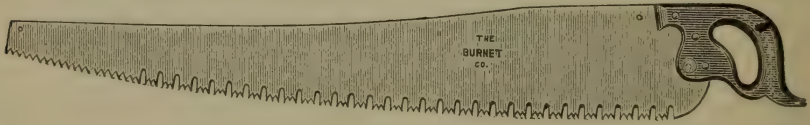


Fig. 921.

Feet .	3	3½	4	4½	5	5½	6
Each .	$2.64	3.08	3.52	3.96	4.40	4.84	5.28

PRICES FOR BAND SAWS.

Set, Sharpened and Joined Complete.

Width, inches .	2	2¼	2½	3	3½	4	4½	5
Gauge . .	18	18	18	17	17	16	16	16
Price, per foot	$0.50	.60	.65	.80	1.00	1.20	1.35	1.50
Width, inches .	5½	6	7	8	9	10	11	12
Gauge . .	16	16	16	16	16	14 to 16	14 to 16	14 to 16
Price, per foot	$1.65	1.80	2.15	2.50	3.00	3.50	4.20	5.00

When ordering, state whether to be set, sharpened and joined. Toothed blanks are same price as finished saws. Band Saw Blanks, either bright or black furnished to order, but are not warranted.

Band Saws of any Width, Length, and Tooth, Set, Sharpened and Joined Complete.

CROSS-CUT SAW HANDLES.

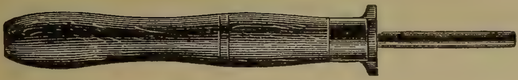


Fig. 922.

LOOP.

Per pair $0.24

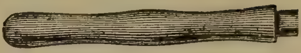


Fig. 923.

PLAIN.

Per pair $0.14

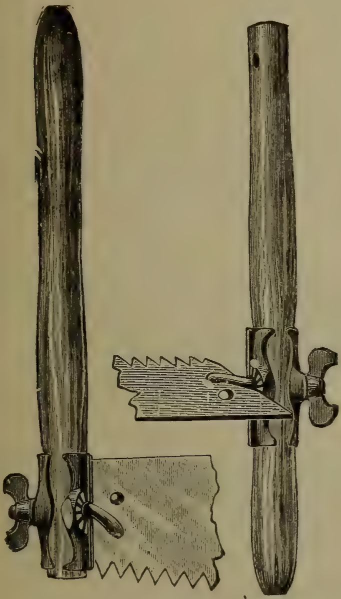


Fig. 924.

CHAMPION.—Per pair, $0.24.

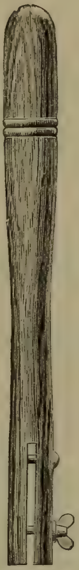


Fig. 925.—Per pair, $0.24.

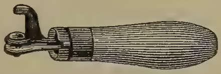


Fig. 926.

SUPPLEMENTARY HANDLES FOR ONE MAN SAW.

Per dozen . . . $2.25

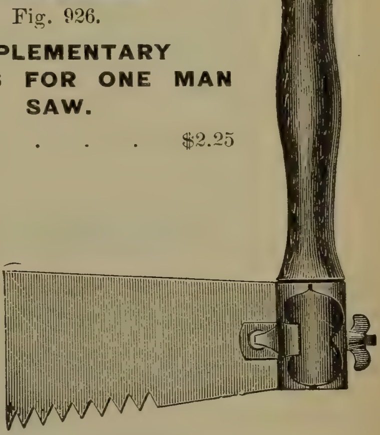


Fig. 927.

CLIMAX.— Per pair, $0.40.

DANDY.— " 0.30.

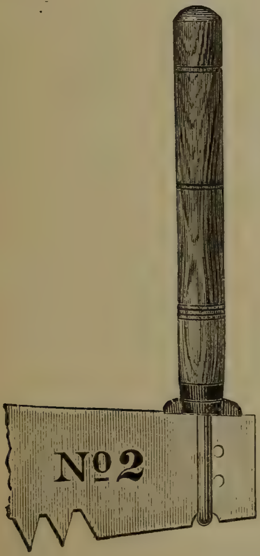


Fig. 928.—Per pair, $0.28.

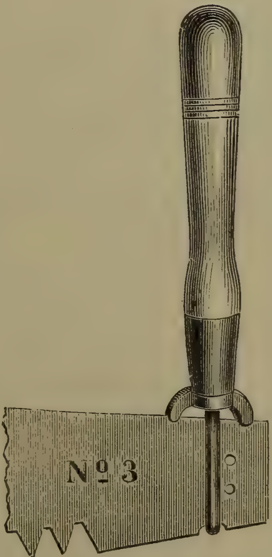


Fig. 929.—Per pair, $0.36.

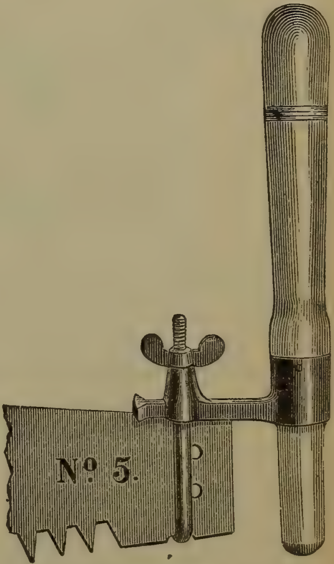


Fig. 930.—Per pair, $0.40.

POLISHED HICKORY HANDLES.

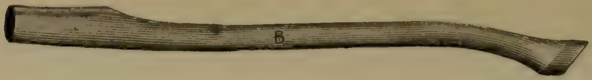


Fig. 931.

AXE HANDLE.

Length, inches.	28	30	32	34	36	38
Extra, per dozen .	$2.00	2.85	2.85	3.20	3.20	3.50
Excelsior " .	1.80	2.20	2.20	2.50	2.50	2.70
No. 1 " .	1.50	1.70	1.70	2.15	2.15	2.15
No. 2 " .	1.30	1.50	1.50	1.80	1.80	1.70

OCTAGON AND OVAL HAND-SHAVED.

Length, inches . . .	32	34	36	38	40
XXX, per dozen . . .	$3.50	3.50	3.50	3.75	4.00
XX " . . .	3.00	3.00	3.00	3.00	3.50
X " . . .	2.20	2.20	2.20	2.20	2.30
Straight Lumberman's XXX			3.50	3.75	. . .
" " XX			3.00	3.00	. . .

Broad Axe Handles, No. 1, 26-inch, per dozen . . . $3.00

DOUBLE-BITTED AXE HANDLES.

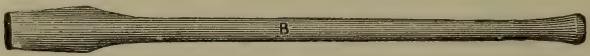


Fig. 932.

Length, inches	34	36
Extra, per dozen	$3.20	3.20
Excelsior "	2.50	2.50
No. 1 "	2.10	2.10

PICK HANDLES.

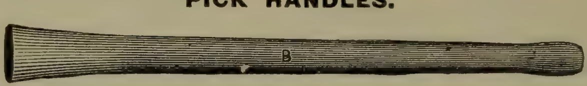


Fig. 933.

		Extra.	Exlcr.	No. 1.	No. 2.
Pick Handles—Surface or R. R., 36 inch, . .	Per doz.	$4.50	3.50	2.50	1.80
" Drifting, 32, 34 and 36 inch . .	"	3.50	3.00	2.10	. . .
" Poll, 32, 34 and 36 inch . .	"	3.50	3.00	2.10	. . .
" Coal Miners' Small Eye, 3x$\frac{5}{8}$, 34 inch,	"	2.30	1.80	1.50	1.25
" " Medium Eye, 3x$\frac{3}{4}$, 34 inch	"	2.30	1.80	1.50	1.25
" " Large Eye, 3$\frac{1}{8}$x$\frac{7}{8}$, 34 inch	"	2.30	1.80	1.50	1.25

CARPENTER, SHIP AND RAILROAD ADZE HANDLES.

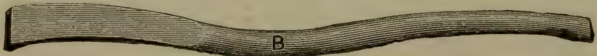


Fig. 934.

Length, inches	32	34
Extra, per dozen	$4.00	4.00
Excelsior "	3.50	3.50
No. 1 "	2.10	2.10

NAPPING, SLEDGE, TOOL AND MAUL HANDLES.

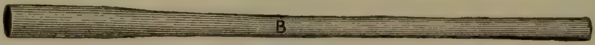


Fig. 935.

Length, inches.	24 & 26	28 & 30	32	34 & 36	38	40
Extra, per dozen .	$1.25	1.60	1.75	2.10	2.25	2.50
No. 1 " .	1.00	1.25	1.45	1.75	1.80	2.00
No. 2 " .	75	1.00	1.10	1.20	1.35	1.60

Hand-shaved Sledge, add 40 cents per dozen to above prices.

POLISHED HICKORY HANDLES.

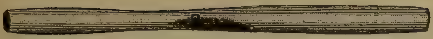


Fig. 936.

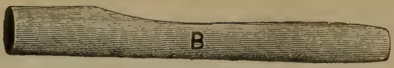


Fig. 937.

HAMMER HANDLE.

HATCHET HANDLE.

Length, inches		11	12	13	14	15	16	17	18	19	20	22	24
Machinists' Hammer	Per doz.	60	60	60	60	60	70	70	80	85	90	95	1.05
Blacksmiths' Hammer	"	60	60	60	60	60	70	70	80	85	90	95	1.05
Riveting Hammer	"	60	60	60	60	60	70	70	80	85	90	95	1.05
Hammer, A. & R. E.	"	..	60	60	65	65	..	..	..	..	..	..	..
Hatchet, Broad or Bench,	"	..	..	..	..	..	70	75	95	1.00	1.00	..	..
" Shingle	"	..	60	60	65	65	..	..	..	..	..	..	..

Handles packed in 2 to 12 dozen cases.

"D" HANDLES.

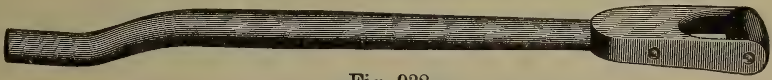


Fig. 938.

Shovel, $3.25. . . . . Spade, $3.35. . . . . . Fork, $3.00 per dozen

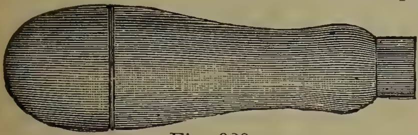


Fig. 939.

FILE HANDLES.

No.	Brass Ferrules.	
50,	Soft Wood, assorted, per gross	$4.00
51,	" " Large, per gross	4.50

Quarter gross in a box.

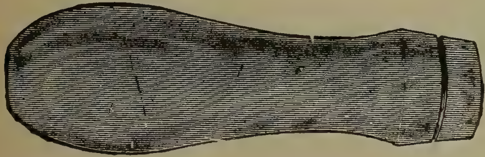


Fig. 940.

SOLDERING COPPER HANDLES.

With Wire Ferrules.

Per gross $5.25

CAST-STEEL DIVIDERS.

Made of the Best Material.

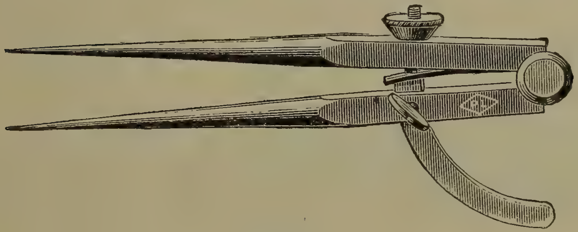


Fig. 941.

Size, inches,	5	6	7	8	9	10	12	15	18	24
Per dozen,	$5.50	5.50	6.50	7.50	9.00	10.00	12.00	18.00	25.00	36.00

CAST-STEEL COMPASSES.

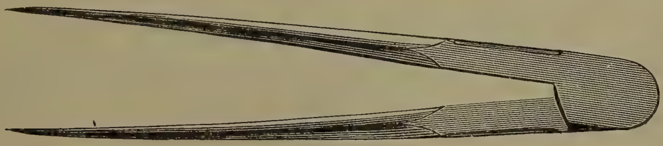


Fig. 942.

Size, inches	3	4	5	6	7	8	9	10	12
Per dozen	$3.12	3.25	3.50	4.00	4.75	5.50	10.75	12.00	13.00

Dividers and Compasses half dozen in a box.

SWAN'S PATENT SCREW-DRIVERS.

WITH STRONG MALLEABE IRON FERRULES.

All superior quality and fully warranted.

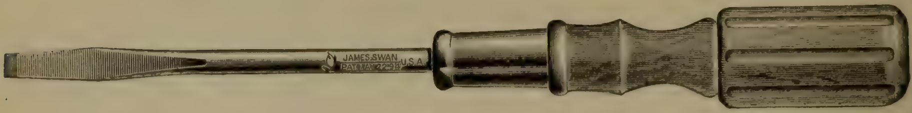


Fig. 943.

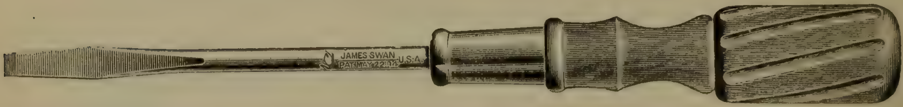


Fig. 944.

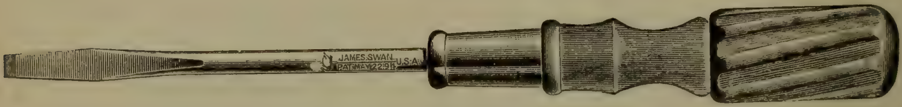


Fig. 945.

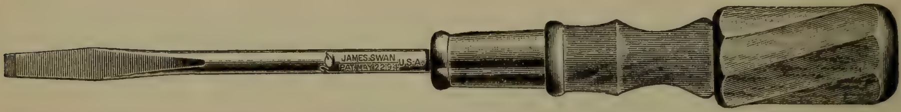


Fig. 946.

All the above same lists.

Size, inches	2½	3	4	5	6	7	8	9	10	12
Per dozen	$3.00	3.50	4.25	5.00	6.00	7.00	8.00	9.00	10.00	12.00

SWAN'S PATENT SCREW-DRIVERS.

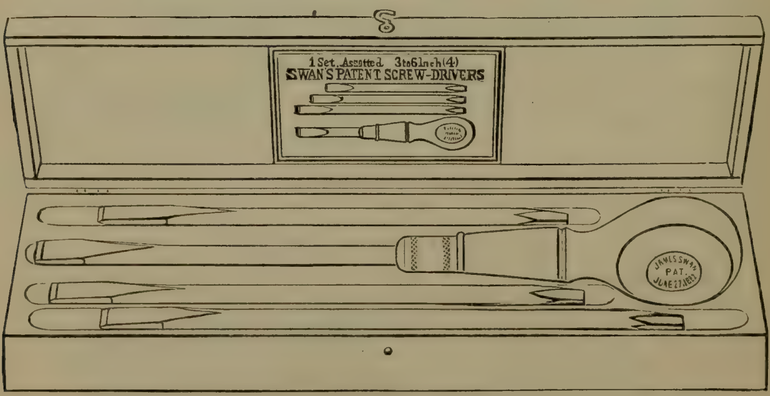


Fig. 947.

In Sets (4) 3 to 6 inches, per dozen sets $15.00

One set in a wooden box, as illustrated.

EXTRA SCREW DRIVER BITS.

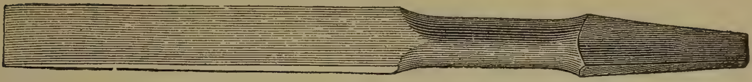


Fig. 948.

Per dozen, No. 2 . . . . $1.50

IMPROVED SCREW DRIVER BITS.

Width of Blades, $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$ inch.

Made from extra quality of Steel and carefully tempered. Full polished.

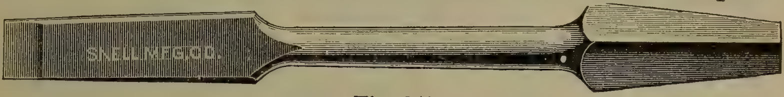

SNELL MFG. CO.

Fig. 949.

Per dozen, No. 1 Assorted $2.00

SCREW DRIVERS.

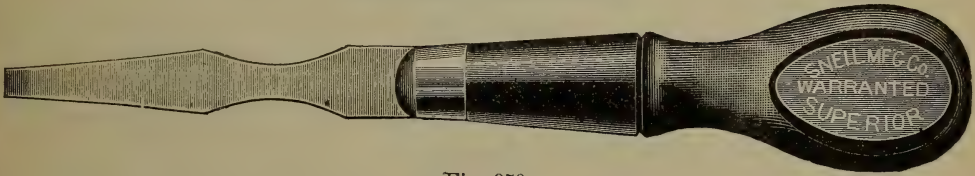


Fig. 950.

Flat Blade, Ebonized Handle, Nickeled Ferrule. Made of Fine Grade Steel.

Size, inches .	2	3	4	5	6	7	8	10	12
Per dozen .	$2.00	2.50	3.00	3.50	4.00	5.00	5.50	8.50	9.5

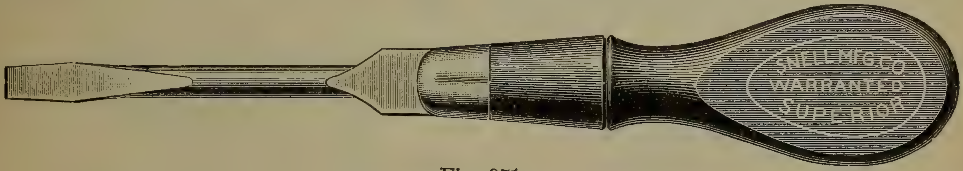


Fig. 951.

Ebonized Handle, Nickeled Ferrule. Forged from a fine quality of Steel. Warranted.

Size, inches .	3	4	5	6	7	8	10	12
Per dozen .	$2.50	3.00	4.50	4.00	5.00	5.50	8.50	9.50

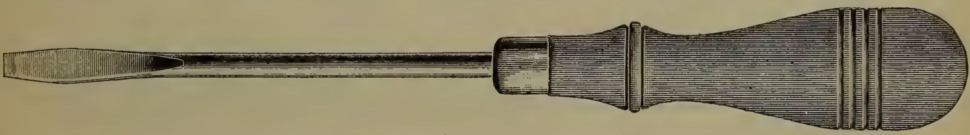


Fig. 952.

Round Handle, Nickeled Ferrule. Best Forged Cast-steel Blade. Warranted.

Size, inches.	3	4	5	6	7	8	10	12
Diameter .	$\frac{3}{16}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Per dozen .	$3.00	3.60	4.20	4.80	5.90	6.50	8.00	10.00

RACHET SCREW DRIVER.

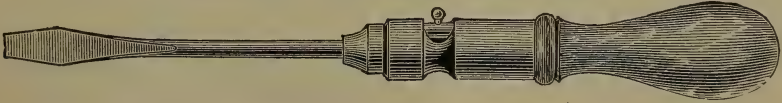


Fig. 953.

This is a single Pall Ratchet Screw Driver. It drives a screw in or out with the Ratchet, or may be made stationary. The whole length is eleven inches. The handle is Cocobola, both bit and handle highly polished, and the bit nickel-plated as well as the metal part of the handle.

Price, with one bit . . . . Per doz., $12.00

AUTOMATIC SCREW DRIVERS.

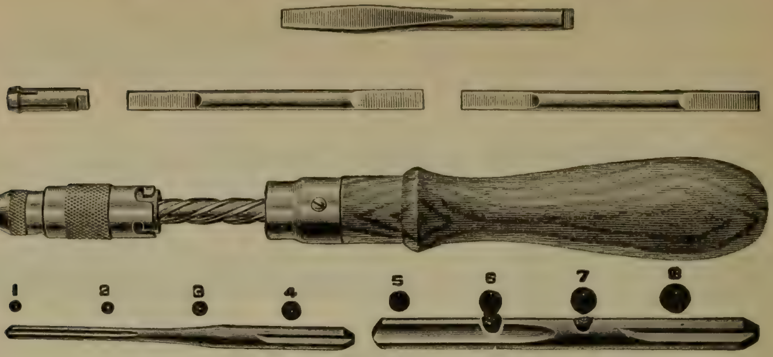


Fig. 954.

Has a patent revolving sleeve which the left hand grasps when the tool is working. While this sleeve is a great advantage in driving screws, it also enables the tool to be used as an automatic drill. The only additional expense is for the drill points. There is also a locking device which prevents the screw driver from falling out of engagement when held perpendicular. All the metal parts are highly polished and heavily nickel-plated. The handle is of Cocobola. Full length, ex. tended, 17 inches. The three screw-driver bits which go with each tool are 4 inches long, and made to fit screws of varying sizes.

Price of No. 11, without Drill Points, but with 3 screw driver bits, per doz., $15.00
" " 12, with 8 Drill Points and 3 screw driver bits, " " 21.00

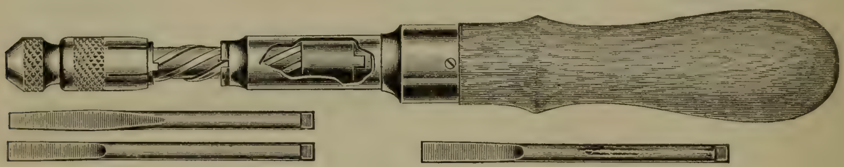


Fig. 955.

WITH CAST INTERCHANGEABLE METAL NUT.

Price, No. 20, with 3 Screw Driver Bits, 9 in. long, 13 in. extended, per doz , $12.00
" " 21, " " " 10 " " 14 " " " 14.00

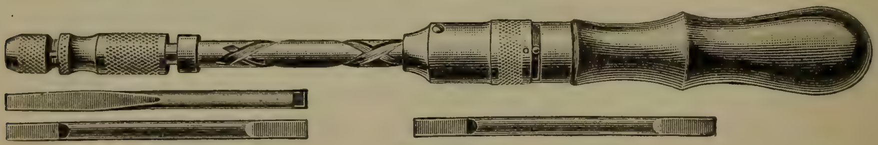


Fig. 956.

This cut represents our latest and best Reversible Screw Driver. One of the grooves being deeper cut than the other, preserves the entire individuality of each. It is simple in construction and simple to operate, the mere turning of the shell near the handle shifting the movement from right to left, or vice versa. By turning the shell half way it locks the spiral so that it can be used as an ordinary driver, and at different lengths. With each tool we put up three bits, two of them double end, giving five points in all.

Price per dozen $18.00

All above packed one in a box.

BARBER IMPROVED BRACES.

These Braces possess the following points of superiority: The Sweep is made from Steel. The Jaws are forged from Steel The Wood Handle has brass rings inserted in each end so it cannot split off. The Chuck has a hardened Steel anti-friction washer between the two sockets, thus reducing the wear. The head has a bearing of steel balls, running on hardened steel plates, so no wear can take place, as the friction is reduced to the minimum. The Brace is heavily Nickel-plated and warranted in every particular.

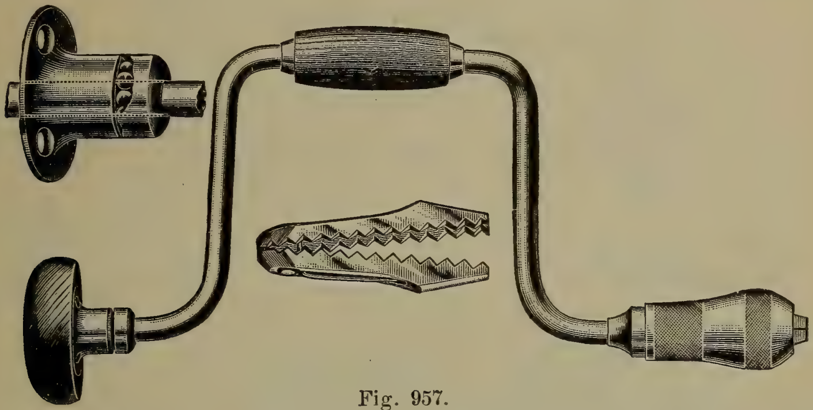


Fig. 957.

	Per Doz.		Per Doz.
No. 10, 14 inch sweep	$33.00	No. 13, 8 inch sweep	$24.00
“ 11, 12 “	30.00	“ 14, 6 “	21.00
“ 12, 10 “	27.00	‘ 15, 4 “	20.00

BARBER IMPROVED RATCHET BRACES.

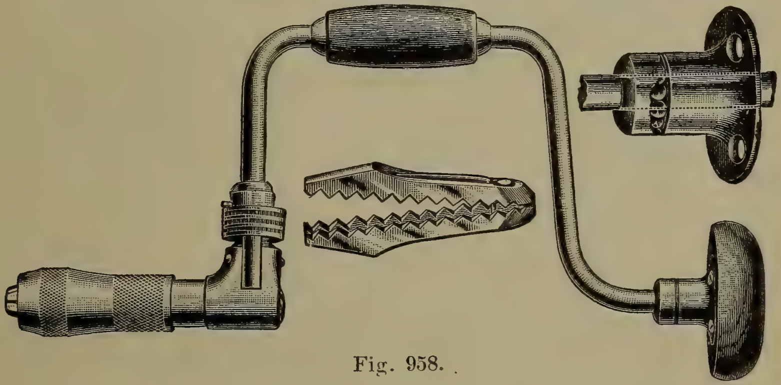


Fig. 958.

	Per Doz.		Per Doz.
No. 30, 14 inch sweep	$42.00	No. 33, 8 inch sweep	$33,00
“ 31, 12 “	39.00	“ 34, 6 “	30.00
“ 32, 10 “	36.00		

PATENT UNIVERSAL ANGULAR BIT STOCK.

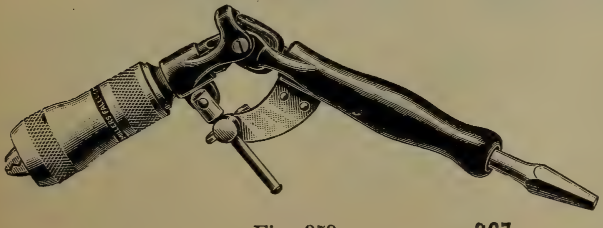


Fig. 959.

To be used in connection with a Brace and a Bit for boring holes in places where the Brace and Bit alone could not be used.

Per dozen, $24.00.

BARBER IMPROVED PATENT BRACE.

These Braces are intended to occupy a place midway between the highest and lowest price Grip Braces. They are made of steel, polished but not nickel-plated. The heads and handles are stained in imitation of Cocobola. They also have the new anti-friction steel collar. The threads are all lathe-cut, and all parts of the Brace are made for durability.

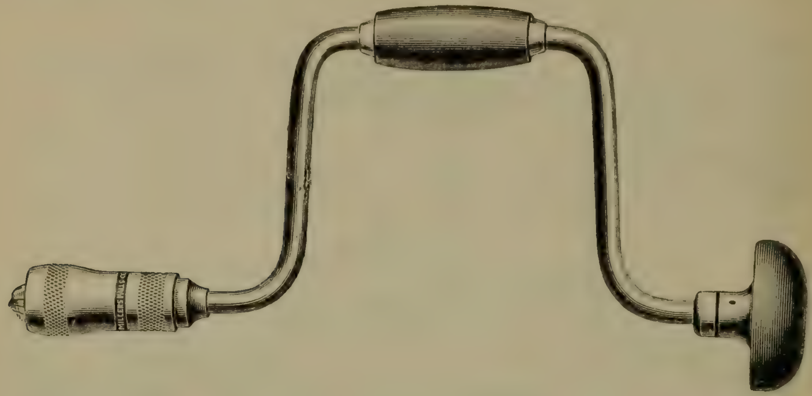


Fig. 960. (Cut shows Plain Brace.)

No.					No.				
21,	Plain,	12 in. sweep,	per doz.,	$11.00	122,	Ratchet,	10 in. sweep,	per doz.,	$18.00
22,	"	10 "	"	10.00	123,	"	8 "	"	17.00
23,	"	8 "	"	9.00					

BARBER BRACES.

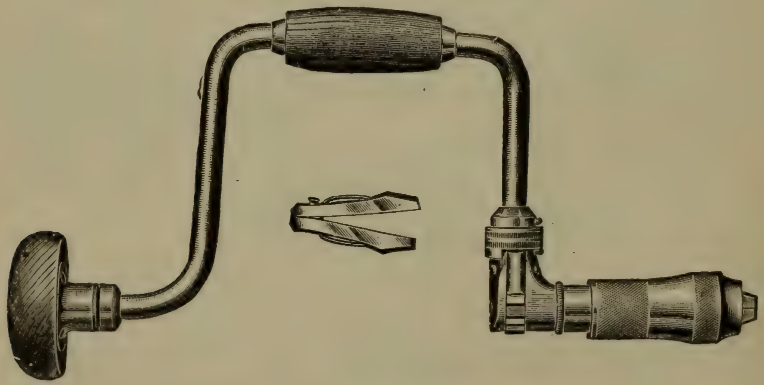


Fig. 961. (Cut shows Ratchet Brace.)

No.					No.				
222,	Plain,	10 inch,	. per doz.,	$5.35	322,	Ratchet,	10 inch,	per doz.,	$10.40
223.	"	8 "	. "	4.75	323,	"	8 "	"	9.75

BARBER EXTENSION BIT HOLDER.

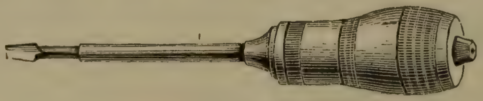


Fig. 962.

12, 15, 18, 21 and 24 inches.

Price, all lengths, ... per dozen, $15.00

FRAY'S PATENT BRACES.

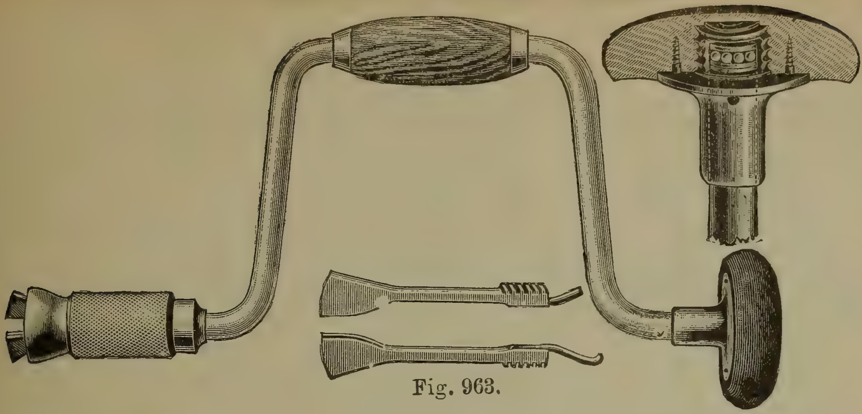


Fig. 963.

Ball Bearing Heads, Nickel-plated, Cocobolo Head and Handle.

Nos.	606	608	610	612	614
Sweep, inches	6	8	10	12	14
Per dozen	$21.00	22.00	24.00	27.00	30.00

FRAY'S PATENT RATCHET BRACES.

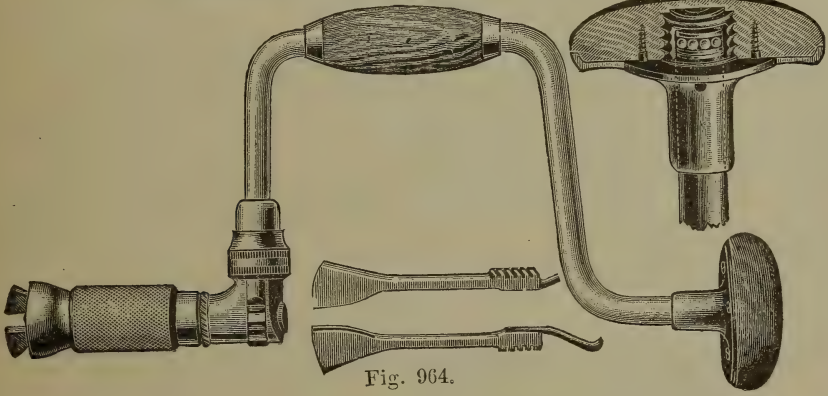


Fig. 964.

Ball Bearing Heads, Nickel-plated, Cocobolo Head and Handle.

Nos.	66	86	106	126	146
Sweep, inches	6	8	10	12	14
Per dozen	$28.00	29.00	32.00	35.00	38.00

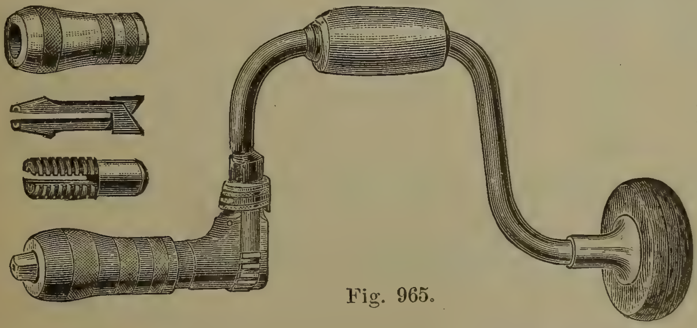


Fig. 965.

RATCHET BRACES.

Maple Head and Handle,

No. 129.

10-inch Steel Sweep,

Per dozen, $14.00.

NICKEL-PLATED STEEL SWEEP, BLACK WALNUT HEAD AND HANDLE.

No. 179.	10-inch sweep, per dozen	$18.00
No. 181.	12-inch " "	22.00

All above ½ dozen in a package.

IMPROVED BORING MACHINES.

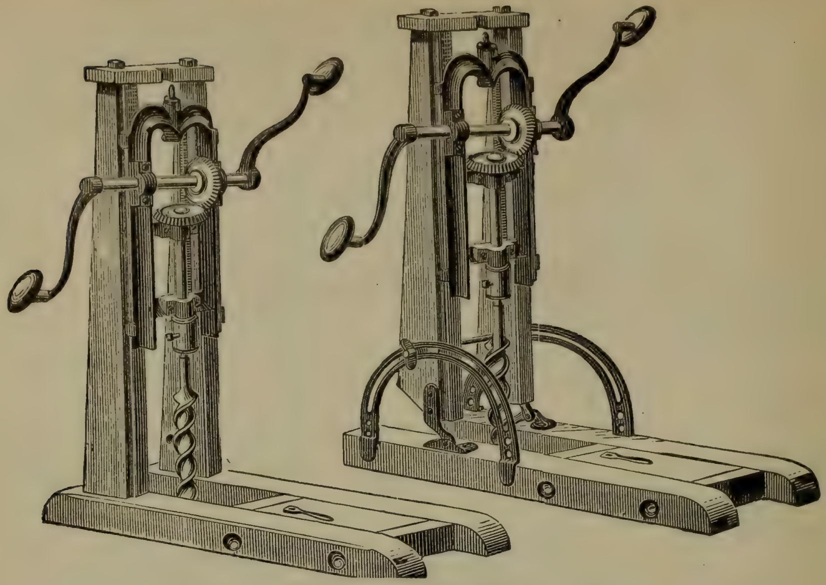


Fig. 966.
Nos. 3, 4 and 5.

Fig. 967.
Nos. 1 and 2.

These Machines are well made and warranted to bore true. They are offered as the Best Wood Frame Machine in the Market.

PRICES, WITHOUT AUGERS.

Fig. 967,	No. 1.	Angular, Polished Gear,	Each,	$10.00
" 967,	No. 2.	" " "	"	6.75
" 966,	No. 3.	Upright, Polished Gear,	"	8.50
" 966,	No. 4.	" " "	"	7.50
" 966,	No. 5.	" " "	"	5.50

BORING MACHINE AUGERS.

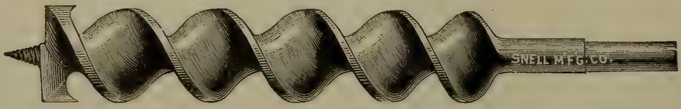

SNELL MFG. CO.

Fig. 968.

Size, Inches,	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$
Per Dozen,	$10.00	10.00	10.00	10.00	10.00	10.00	10.00
Size, Inches,	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Per Dozen,	$12.00	13.00	14.00	16.00	17.00	20.00	24.00

SINGLE TWIST BORING MACHINE SHIP AUGERS.

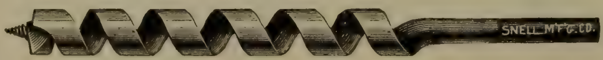

SNELL MFG. CO.

Fig. 969.

Size, Inches,	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Per Dozen,	$8.25	10.00	11.50	13.25	15.00	16.50	18.20	23.10	28.00	34.50

In Sets of 18 quarters, $6.25; 23 quarters, $7.75; 41 quarters, $13.75. These Augers are designed for *hard wood.*

POWER MACHINE BITS.

DOUBLE TWIST MACHINE BITS.

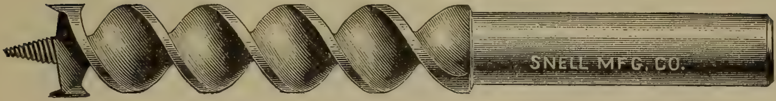

SNELL MFG. CO.

Fig. 970.

ACME POINT MACHINE BITS.

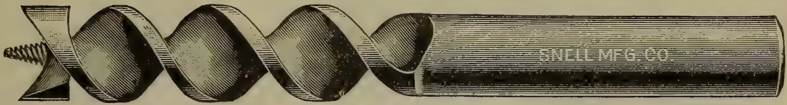

SNELL MFG. CO.

Fig. 971.

SHIP AUGER MACHINE BITS.

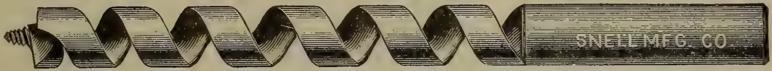

SNELL MFG. CO.

Fig. 972.

SINGLE TWIST MACHINE BITS.

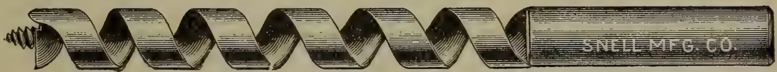

SNELL MFG. CO.

Fig. 973.

Size of Cut.	Twist 2 to 6 In. Long.		Twist 6 to 9 In. Long.		Twist 9 to 12 In Long		Twist 12 to 15 In Long.		Twist 15 to 20 In. Long.	
	Per Dozen.	Each	Per Dozen.	Each.	Per Dozen.	Each.	Per Dozen.	Each	Per Dozen.	Each.
4–16	$6.00	$0.55	$6.60	$0.60	$7.20	$0.65	$7.80	$0.70	$8.40	$0.80
5–16	6.50	.60	7.15	.65	7.80	.75	8.60	.80	9.10	.85
6–16	7.00	.65	7.70	.75	8.40	.80	9.10	.85	9.80	.90
7–16	8.25	.75	9.10	.85	9.90	.90	10.70	1.00	11.60	1.05
8–16	9.50	.85	10.50	.95	11.40	1.05	12.40	1.10	13.30	1.20
9–16	10.50	.95	11.50	1.05	12.60	1.15	13.70	1.25	14.70	1.35
10–16	11.50	1.05	12.65	1.15	13.80	1.25	15.00	1.35	16.10	1.50
11–16	12.50	1.15	13.75	1.25	15.00	1.35	16.25	1.50	17.50	1.60
12–16	14.00	1.25	15.40	1.40	16.80	1.50	18.20	1.65	19.60	1.75
13-16	15.50	1.40	17.00	1.55	18.60	1.65	20.20	1.80	21.70	1.95
14–16	16.75	1.50	18.50	1.65	20.10	1.80	21.80	1.95	23.50	2.10
15–16	18.00	1.60	19.80	1.75	21.60	1.95	23.40	2.10	25.20	2.25
16–16	19.50	1.70	21.50	1.90	23.40	2.10	25.40	2.20	27.30	2.40
17–16	21.00	1.85	23.10	2.05	25.20	2.25	27.30	2.40	29.40	2.60
18 16	22.50	2.00	24.75	2.20	27.00	2.35	29.25	2.60	31.50	2.75
19–16	24.00	2.10	26.40	2.30	28.80	2.50	31.20	2.75	33.60	2.95
20–16	25.50	2.25	28.00	2.50	30.60	2.70	33.20	2.95	35.70	3.15
21–16	27.00	2.35	29.70	2.60	32.40	2.85	35.20	3.05	37.80	3.30
22–16	28.50	2.50	31.40	2.75	34.20	3.00	37.00	3.26	40.00	3.50
23-16	30.00	2.60	33.00	2.85	36.00	3.15	39.00	3.35	42.00	3.60
24–16	31.50	2.75	34.70	3.00	37.80	3.30	41.00	3.60	44.10	3.85
25–16	33.00	2.85	36.30	3.15	39.60	3.40	43.00	3.70	46.20	4.00
26–16	34.50	3.00	38.00	3.30	41.40	3.60	45.00	3.90	48.30	4.20
27–16	36.00	3.10	39.60	3.40	43.20	3.75	46.80	4.05	50.40	4.35
28–16	37.50	3.25	41.25	3.55	45.00	3.90	48.75	4.25	52.50	4.55
29–16	39.00	3.35	43.00	3.70	46.80	4.05	50.70	4.40	54.60	4.70
30–16	40.50	3.50	44.50	3.85	48.60	4.20	52.70	4 55	56.70	4.90
31–16	42.00	3.60	46.25	4.00	50.40	4.35	54.60	4.70	58.80	5.05
32–16	43.50	3.75	48.00	4.15	52.20	4.50	56.60	4.90	61.00	5.25

Regular style Machine Bits 6 and 12-inch twist by ½-inch shank, common sizes, carried in stock.

SNELL'S SHIP AUGERS, WITH AND WITHOUT SCREWS.

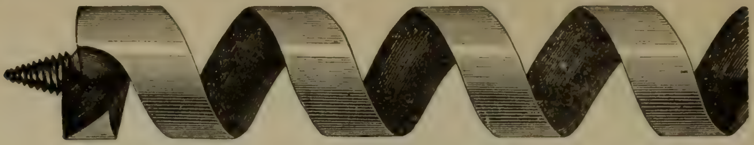


Fig. 974.

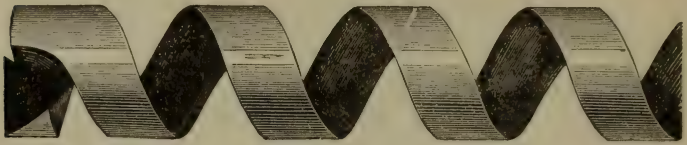


Fig. 975.

They are so finished as to bore endwise or with the grain as readily as across it, or through the knottiest timber without swerving.

Size in 8ths. . .	2 to 4	4 and 4½	5½ and 6	6½ and 7	7½ and 8
Price per doz., . .	$7.50	9.00	10.50	12.00	13.50
Size in 8ths. . .	8½ to 9	9½ and 10	10½ and 11	11½ and 12	12½ and 13
Price per doz., . .	$15.00	16.50	18.00	21.00	24.00
Size in 8ths, . .	13½ and 14	14½ and 15	15½ and 16	16½ and 17	17½ and 18
Price per doz., . .	$25.50	27.00	31.50	48.00	60.00
Size in 8ths, . .	18½ and 19	19½ and 20	20½ and 21	21½ and 22	
Price per doz , . .	$72.00	84.00	96.00	108.00	
Size in 8ths, . .	22½ and 23	23½ and 24	29½ and 30	35½ and 36	
Price per doz., . .	$120.00	132.00	204.00	276.00	

SNELL'S SHIP AUGERS, WITH EXTRA LENGTH TWIST.

	Length of Twist and Price per Dozen.					
Size in 8ths,	18 in.	20 in.	22 in.	24 in.	30 in.	36 in.
4 and under, .	$9.60	$11.52	$13.44	$15.63	$17.28	$19.20
4½ . . .	10.80	12.96	15.12	17.28	19.44	21.60
5 . . .	12.00	14.40	16.80	19.20	21.60	24.00
5½ . . .	13.20	15.84	18.48	21.12	23.76	26.40
6 . . .	14.40	17.28	20.16	23.04	25.92	28.80
6½ . . .	15.60	18.72	21.84	24.96	28.08	31.20
7 . . .	16.80	20.16	23.52	26.88	30.24	33.60
7½ . . .	18.00	21.60	25.20	28.80	32.40	36.00
8 . . .	19.20	23.04	26.88	30.72	34.56	38.40
8½ . . .	20.40	24.48	28.56	32.64	36.62	40.80
9 . . .	21.60	25.92	30.24	34.56	38.88	43.20
9½ . . .	22.80	27.36	31.92	36.48	41.04	45.60
10 . . .	24.00	28.80	33.60	38.40	43.20	48.00
10½ . . .	25.20	30.24	35.28	40.32	45.36	50.40
11 . . .	26.40	31.68	36.96	42.24	47.52	52.80
11½ . . .	27.60	33.12	38 64	44.16	49.69	55.20
12 . . .	28.80	34.56	40.32	46.08	51.84	57.60
12½ . . .	30.00	36.00	42.00	48.00	54.00	60.00
13 . . .	31.20	37.44	43.68	49.92	56.16	62.40
13½ . . .	32.40	38.88	45.36	51.84	58.32	64.80
14 . . .	33.60	40.32	47.04	53.76	60.48	67.20
14½ . . .	34.80	41.76	48.72	55.68	62.64	69.60
15 . . .	36.00	43.20	50.40	57.60	64.80	72.00
15½ . . .	37.20	44 64	52.08	59.52	66.96	74.40
16 . . .	38.40	46.08	53.76	61.44	69.12	76.80

In ordering these goods be particular to state whether *with* or *without* Screws.

SNELL'S SHIP AUGER PATTERN CAR BITS.

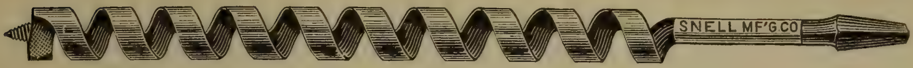


Fig. 976.

TWELVE INCH TWIST.

Size in 8ths .	2½	3	3½	4	4½	5	5½	6	6½
Per doz. .	$8.50	9.00	9.50	10.00	10.50	11.00	11.50	12.00	12.50
Size in 8ths .	7	7½	8	8½	9	9½	10	10½	11
Per doz .	$13.00	14.00	14.50	15.50	16.00	17.00	17.50	18.50	19.00
Size in 8ths .		11½	12	12½	13	13½	14	14½	15
Per doz. .		$21.50	22.00	25.00	25.50	26.00	26.50	27.50	28.00

SNELL'S SHIP AUGERS WITH RINGS.

Size in 8ths .	4 and under.	4½ and 5	5½ and 6	6½ and 7	7½ and 8	
Per doz. .	$8.25	9.90	11.55	13.20	14.85	
Size in 8ths,	8½ & 9	9½ & 10	10½ & 11	11½ & 12	12½ & 13	13½ & 14
Per doz.	$16.50	18.15	19 80	23.10	26.40	28 05
Size in 8ths .	14½ & 15	15½ & 16	16½ & 17	17½ & 18	18½ & 19	
Per doz. .	$29.70	34.65	52 80	66.00	79.20	
Size in 8ths .	19½ & 20	20½ & 21	21½ & 22	22½ & 23	23½ & 24	
Per doz. .	$92.40	105.60	118.80	132.00	145.20	
Size in 8ths .	.	.	.	25 and 30	35½ and 36	
Per doz. .	.	.	.	$224.40	303.60	

These Augers are designed especially for boring *hard wood.* In ordering be particular to state whether wanted *with* or *without screws*

SNELL'S SHIP AUGER BITS.

WITH AND WITHOUT SCREWS.

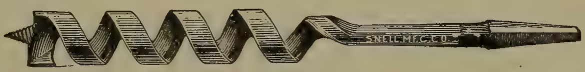

SNELL MF'G.CO.

Fig. 977.

Size in 8ths .	2 to 4	4½ and 5	5½ and 6	6½ and 7
Per doz. . .	$6.00	7.50	9 00	10.50
Size in 8ths .	7½ and 8	8½ and 9	9½ and 10	
Per doz. . .	$12.00	13.50	15.00	

SHIP AUGER BITS IN SETS—one each from 2 to 8 8ths . $9.00 per set.

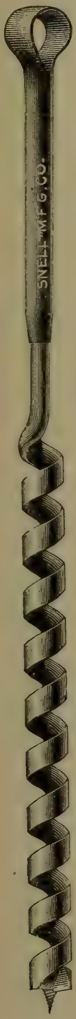

SNELL MF'G.CO.

Fig. 978.
SHIP AUGER.

TRENAIL AUGERS.

Size, inches	1	1⅛	1¼	1⅜	1½	2
Per dozen	$12.00	12.00	13.50	15.00	16.50	22.00

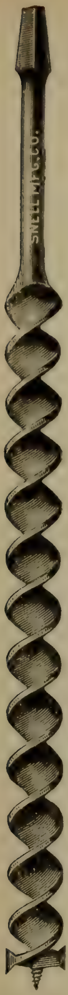


Fig. 979.
12 INCH TWIST CAR BIT

SNELL'S JENNINGS' PATTERN CAR BITS.

TWELVE INCH TWIST.

Size in 16ths, .	4	5	6	7	8	9	10	11
Per Dozen, .	$6.00	6.80	7.60	8.80	9.60	10.40	11.20	12.20
Size in 16ths, .	12	13	14	15	16	17	18	20
Per Dozen, .	$13.20	14 40	15.60	16.80	18.00	19.20	20.40	22.80

SNELL'S CAR BITS.

TWELVE INCH TWIST.

Size in 16ths,	4	5	6	7	8	9	10	11
Per Dozen,	$6.50	6.50	7.50	9.00	10.25	11.25	12.75	13.25
Size in 16ths,	12	13	14	15	16	17	18	20
Per Dozen,	$15.50	16.50	17.75	18.75	20.50	24.00	27.00	30.00

In sets of 21 quarters, $9.50; in sets of 24 quarters, $10.50; in sets of $32\frac{1}{2}$ quarters, $14.00.

These Car Bits are used by all the large Car Manufacturers of the United States. They are superior to all others in quality, and enjoy the highest reputation.

SNELL'S SOLID CAST STEEL LONG MILLWRIGHT AUGERS.

Size in Inches, .	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	
Per Dozen, . .	$12.00	15.00	15.00	18.00	18.00	
Size in Inches, .	$\frac{13}{16}$	$\frac{7}{8}$	$\frac{15}{16}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Per Dozen, .	$21.00	21.00	24.00	24 00	26 00	30.00
Size in Inches, .	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{5}{8}$	$1\frac{3}{4}$	$1\frac{7}{8}$	2
Per Dozen, .	$36.00	38.50	41.00	42 00	45.00	48.00

In sets of 28 quarters, $18.00; in 41 quarters, $24.00.

For Rings, add $1.50 to list.

LONG RAFTING AUGERS.

SNELL'S SOLID CAST STEEL.

Size in Inches, .	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2	$2\frac{1}{4}$
Per Dozen, . .	$27.00	30.00	36.00	42.00	50.00
Size in Inches, .	$2\frac{1}{2}$	$2\frac{3}{4}$	3	4	
Per Dozen, . .	$60.00	63.00	70.00	84.00	

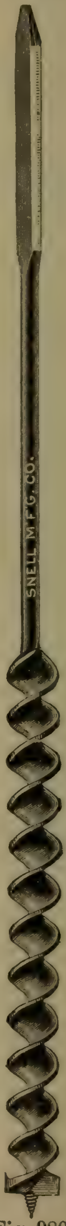


Fig. 980.
MILL-WRIGHT AUGER.

SNELL'S SUPERIOR QUALITY EXTRA CAST-STEEL AUGER BITS.

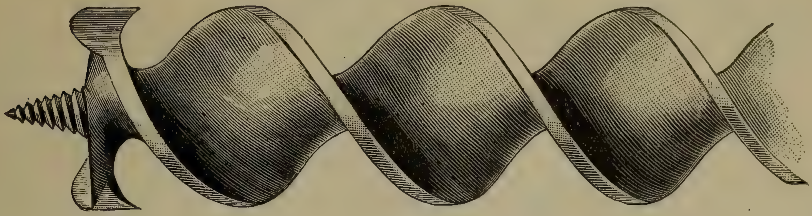


Fig. 981.

Size in 16ths .	3	4	5	6	7	8	9	10	11	12
Per dozen .	$4.00	3.50	3.50	3.75	3.75	4.00	4.25	4.50	5.00	5.50
Size in 16ths . .	13	14	15	16	17	18	20	22	24	
Per dozen . .	$6.00	6.50	7.25	8.00	9.00	10.00	11.00	12.00	14.00	

In Sets of 18 quarters, $3.25; in Sets of 21 quarters, $3.50; in Sets of 24 quarters, $4.25; in Sets of 32½ quarters, $5.75.

SNELL'S RUSSELL JENNINGS' PATTERN AUGER BITS.

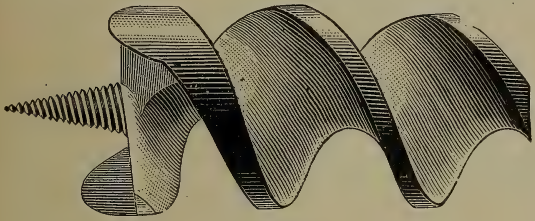


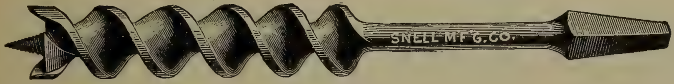
Fig. 982.

In Sets of 24 quarters, $4.75.

In Sets of 32½ quarters, $6.25.

Size in 16ths .	3	4	5	6	7	8	9	10	11	12
Per dozen .	$3.40	3.00	3.40	3.80	4.40	4.80	5.20	5.60	6.10	6.60
Size in 16ths . .	13	14	15	16	17	18	20	22	24	
Per dozen . .	$7.20	7.80	8.40	9.00	9.60	10.25	11.50	12.60	14.50	

BATES M'F'G CO. DOUBLE SPUR FIRST QUALITY AUGER BITS.


SNELL M'F'G.CO.

Patent Rolled Twist, Superior Cast-steel.

Fig. 983.

Size in 16ths .	3	4	5	6	7	8	9	10	11	12
Per dozen .	$4.00	3.50	3.50	3.75	3.75	4.00	4.25	4.50	5.00	5.50
Size in 16ths . .	13	14	15	16	17	18	20	22	24	
Per dozen . .	$6.00	6.50	7.25	8.00	9.00	10.00	11.00	12.00	14.00	

In Sets of 18 quarters, $3.25; in Sets of 21 quarters, $3.50; in Sets of 24 quarters, $4.25; in Sets of 32½ quarters, $5.75.

SNELL'S FIRST QUALITY SOLID CAST-STEEL CARPENTERS' NUT AUGERS.

Size in inches	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$	$1\frac{3}{8}$	$1\frac{1}{2}$	$1\frac{3}{4}$
Per dozen	$6.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	15.00	15.00	18.00
Size in inches . .	2	$2\frac{1}{8}$	$2\frac{1}{4}$	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{4}$	$3\frac{1}{2}$	$3\frac{3}{4}$	4	
Per dozen . .	$22.00	38.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	120.00	

These Augers are manufactured of the BEST QUALITY OF CAST-STEEL AND WARRANTED. They are unequalled in quality and excellency of finish and manufacture.

C. E. JENNINGS' NEW PATTERN SINGLE TWIST AUGER BITS.

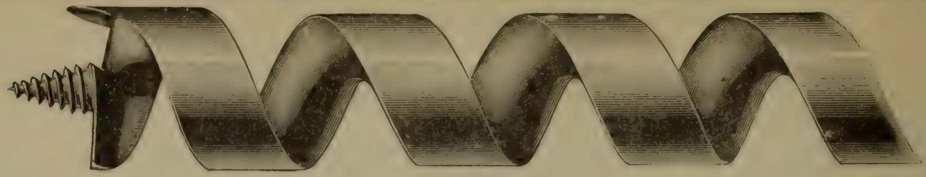


Fig. 984.

3	4	5	6	7	8-16 inch.
$6.00	6.00	6.00	6.00	6.00	6.00 per dozen.
9	10	11	12	13	14-16 inch.
$7.50	7.50	9.00	9.00	10.50	10.50 per dozen.
15	16	17	18	19	20-16 inch.
$12.00	12.00	13.50	13.50	15.00	15.00 per dozen.

ASSORTED IN SETS.

6 Bits, 14 qrs, 4 to 16-16ths. { 1 each, 4, 6, 8, 10, 1 " 12, 16-16ths, Per set, $3.38

9 Bits, 18 qrs. 4 to 12-16ths. { 1 each, 4, 5, 6, 7, 8 1 " 9, 10, 11, 12-16ths. Per set, $5.25

13 Bits, 32½ qrs. 4 to 16-16ths. { 1 each, 4, 5, 6, 7, 8, 9, 10 1 " 11, 12, 13, 14, 15, 16-16ths. Per set, $9.00

We will furnish these sets of Bits in Upright Model Bit Box or Birdseye Maple Bit Box, or in flexible Canvas Bit Roll, without extra charge. These Auger Bits are especially adapted for hard wood and end boring, and will bore equally well in soft wood. Every Bit is tested before leaving the factory and is fully warranted.

These Bits are packed in boxes of one-half dozen each.

DOUBLE-CUT GIMLET BITS.

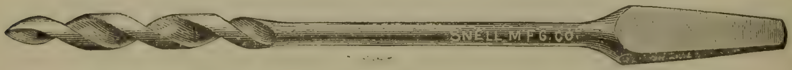

SNELL M'F'G. CO.

Fig. 985.

All Tempered and Extra Finished.

No.	0	1	2	3	4	5	6
Per dozen	$1.00	1.00	1.10	1.25	1.37	1.50	1.62

GERMAN PATTERN BITS.

Fig. 986.

Made from Best Cast-steel, Hardened and Tempered.

No. . .	2	3	4	5	6	7	8	9	10	11	12
Per dozen .	$1.00	1.10	1.10	1.10	1.10	1.10	1.10	1.25	1.25	1.50	1.50

Assorted, 4 to 8-32, $1.10.

"OUR EXTRA" GERMAN PATTERN BITS.

A high-grade German Pattern Bit, made from an extra quality of steel, and carefully tempered. All selected Bits, with hand-filed points

No. . .	2	3	4	5	6	7	8	9	10	11	12
Per dozen .	$1.00	1.10	1.10	1.10	1.10	1.10	1.10	1.25	1.25	1.50	1.50

THE BURNET COMPANY, NEW YORK.

STEEL AND IRON SQUARES.

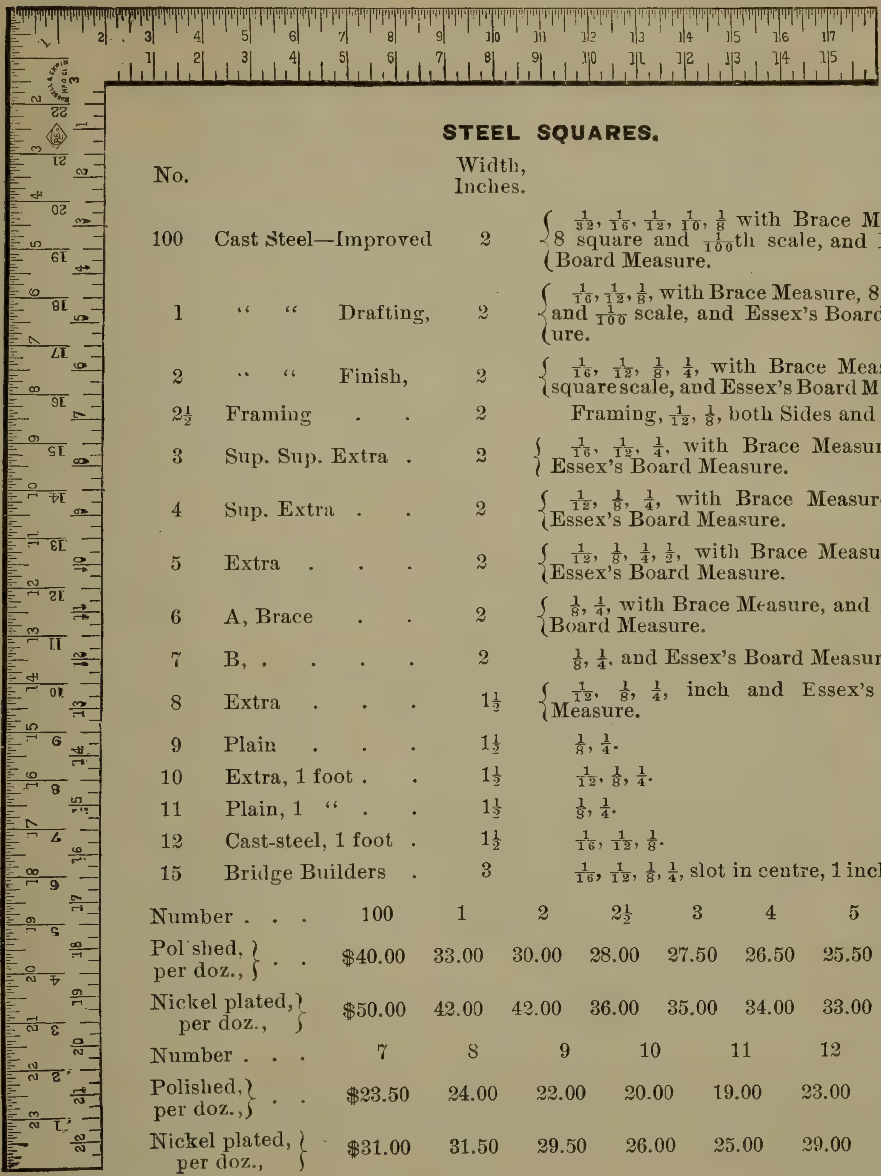


Fig. 987.
No. 3.

STEEL SQUARES.

No.		Width, Inches.	
100	Cast Steel—Improved	2	$\frac{1}{32}$, $\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{10}$, $\frac{1}{8}$ with Brace Measure, 8 square and $\frac{1}{100}$th scale, and Essex's Board Measure.
1	" " Drafting,	2	$\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{8}$, with Brace Measure, 8 square and $\frac{1}{100}$ scale, and Essex's Board Measure.
2	" " Finish,	2	$\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$, with Brace Measure, 8 square scale, and Essex's Board Measure.
2½	Framing . .	2	Framing, $\frac{1}{12}$, $\frac{1}{8}$, both Sides and Edges.
3	Sup. Sup. Extra .	2	$\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{4}$, with Brace Measure, and Essex's Board Measure.
4	Sup. Extra . .	2	$\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$, with Brace Measure, and Essex's Board Measure.
5	Extra . . .	2	$\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$, $\frac{1}{2}$, with Brace Measure, and Essex's Board Measure.
6	A, Brace . .	2	$\frac{1}{8}$, $\frac{1}{4}$, with Brace Measure, and Essex's Board Measure.
7	B, ...	2	$\frac{1}{8}$, $\frac{1}{4}$, and Essex's Board Measure.
8	Extra . . .	1½	$\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$, inch and Essex's Board Measure.
9	Plain . . .	1½	$\frac{1}{8}$, $\frac{1}{4}$.
10	Extra, 1 foot . .	1½	$\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$.
11	Plain, 1 " . .	1½	$\frac{1}{8}$, $\frac{1}{4}$.
12	Cast-steel, 1 foot .	1½	$\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{8}$.
15	Bridge Builders .	3	$\frac{1}{16}$, $\frac{1}{12}$, $\frac{1}{8}$, $\frac{1}{4}$, slot in centre, 1 inch wide.

Number . . .	100	1	2	2½	3	4	5	6
Polished, per doz., . .	$40.00	33.00	30.00	28.00	27.50	26.50	25.50	24.50
Nickel plated, per doz.,	$50.00	42.00	42.00	36.00	35.00	34.00	33.00	32.00

Number . . .	7	8	9	10	11	12	15
Polished, per doz., . .	$23.50	24.00	22.00	20.00	19.00	23.00	300.00
Nickel plated, per doz.,	$31.00	31.50	29.50	26.00	25.00	29.00	325.00

Nos. 100 to 5 furnished with 18-inch tongue, unless otherwise ordered.

AMERICAN BLUE STEEL SQUARES.

Number	100 B	1 B	3 B	10 B	12 B	14 B
Per dozen	$40.00	33.00	27.50	20.00	23.00	23.00

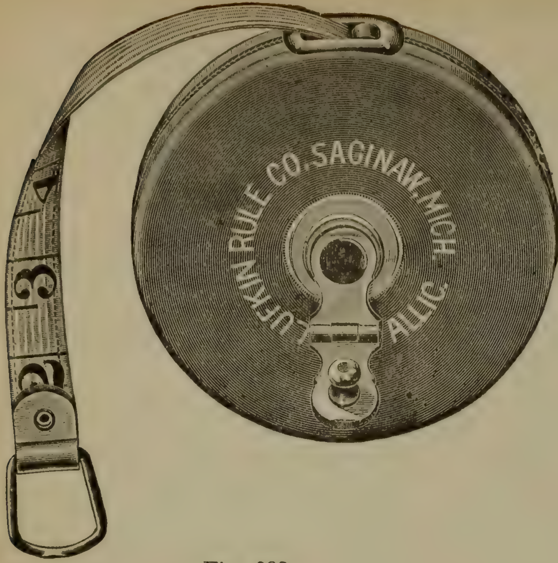
Add for Bluing $3.00 per dozen net.

EAGLE SQUARES.

No.		Width, Inches.		Polished, Per Doz.
13	A Brace	2	$\frac{1}{8}$, $\frac{1}{4}$, with Brace Measure and Essex Board Measure	$23.50
14	B "	2	$\frac{1}{8}$, $\frac{1}{4}$, " Essex Board Measure	23.00

Nickel Plated Extra.

Steel Squares ¼ dozen in a box. Iron Squares ½ dozen in a box.



UFKIN RULE CO. SAGINAW, MICH.
ALLIC.
4
3
2

Fig. 988.

METALLIC MEASURING TAPES.

Tape ⅝ inch wide made of best woven linen, with metallic warp. Hard leather cases, folding handles with brass trimmings.

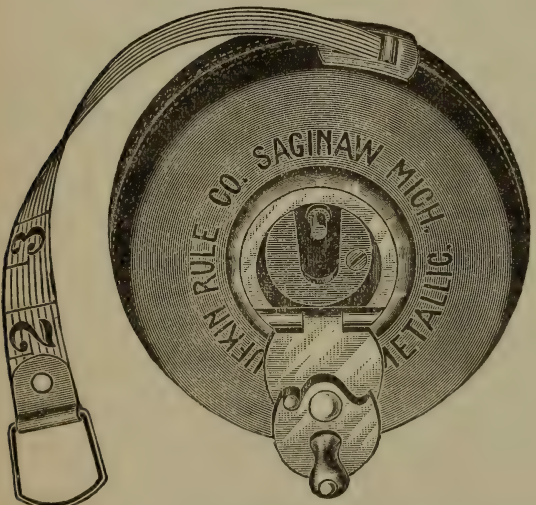
12ths.	10ths.		Per Doz.	
No. 500	No. 500D	25 ft.	$20.40	Marked One Side Only.
" 501	" 501D	33 "	24.00	
" 502	" 502D	40 "	26.40	
" 503	" 503D	50 "	30.00	
" 504	" 504D	66 "	33.60	
" 505	" 505D	75 "	37.20	
" 506	" 506D	100 "	46.80	

12ths and Links.	10ths and Links.		Per Doz.	
No. 500L	No. 500DL	25 ft.	$21.60	Marked Both Sides.
" 501L	" 501DL	33 "	25.20	
" 502L	" 502DL	40 "	27.60	
" 503L	" 503DL	50 "	31.20	
" 504L	" 504DL	66 "	36.00	
" 505L	" 505DL	75 "	39.60	
" 506L	" 506DL	100 "	50.40	

Tape ⅝ inch wide, made of best woven linen with metallic warp. Hard leather cases, with double folding flush handles, opened by pressing pin on opposite side. Nickel-plated trimmings.

12ths.	10ths.		Per Doz.	
No. 600	No. 600D	25 ft.	$24.00	Marked One Side Only.
" 601	" 601D	33 "	27.60	
" 602	" 602D	40 "	30.00	
" 603	" 603D	50 "	33.60	
" 604	" 604D	66 "	37.20	
" 605	" 605D	75 "	40.80	
" 606	" 606D	100 "	50.40	

12ths and Links.	10ths and Links		Per Doz.	
No. 600L	No. 600DL	25 ft.	$25.20	Marked Both Sides.
" 601L	" 601DL	33 "	28.80	
" 602L	" 602DL	40 "	31.20	
" 603L	" 603DL	50 "	34.80	
" 604L	" 604DL	66 "	39.60	
" 605L	" 605DL	75 "	43.20	
" 606L	" 606DL	100 "	54.00	



LUFKIN RULE CO. SAGINAW MICH.
METALLIC.
3
2

Fig. 989.

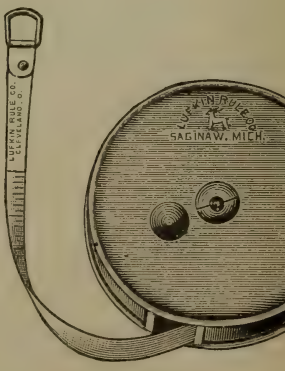
POCKET STEEL TAPES.

German Silver Cases, Spring Wind, with Stop.

Marked one side U. S. Standard. Graduated in $\frac{1}{16}$ths.

No.			Per Doz.
No. 153.	3 ft.	¼ inch Tape	$14.00
" 154.	4 "	" " "	16.00
" 155.	5 "	" " "	18.00
" 156.	6 "	" " "	20.00
" 157.	7 "	" " "	23.00
" 158.	8 "	" " "	25.00
" 1510.	10 "	$\frac{5}{16}$ " "	32.00
" 1512.	12 "	" " "	36.00

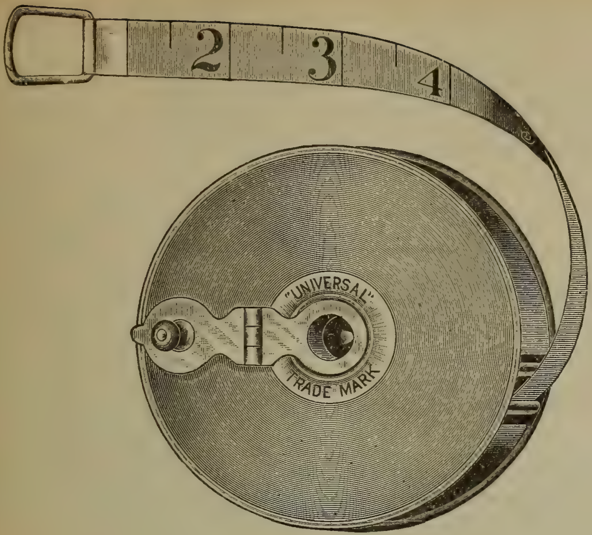
Tapes marked on back in feet instead of links when wanted, at same price.



LUFKIN RULE CO. CLEVELAND, O.
LUFKIN RULE CO.
SAGINAW. MICH.

Fig. 990

MEASURING TAPES.



COMMON ASSES' SKIN CASE, WITH 1-2 INCH COTTON TAPE.

Brass Bound Cases, Brass Folding Handles and Trimmings.

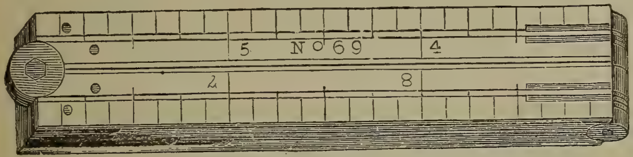
Fig. 991.

Nos.	710	711	712	713	714	715	716
Length, feet	25	30	40	50	66	75	100
Per dozen	$3.75	4.00	4 50	5.00	6.00	7.50	9.00

One-half dozen in a box.

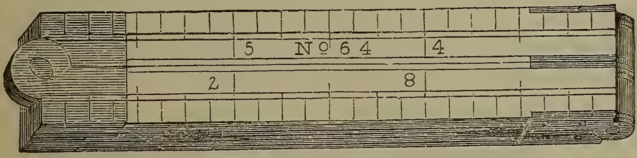
BOXWOOD RULES.

ONE FOOT, FOUR FOLD, NARROW.



No. 69. Round Joint, Middle Plates, 8ths and 16ths of inches, ⅝ inch wide, per dozen . $3.00

Fig 992.



No. 64. Square Joints, Middle Plates, 8ths and 16ths of inches, ⅝ inch wide, per dozen . $3.50

Fig. 993.

BOXWOOD RULES.

TWO FEET, FOUR FOLD, NARROW.

No. 68. Round Joint, Middle Plates, 8ths and 16ths of inches, 1 inch wide, per dozen $4 00

No. 63. Square Joint, Middle Plates, 8ths, 10ths, 12ths and 16ths of inches, Drafting Scales, 1 inch wide, per dozen 7.00

No. 68, 1 dozen in a box. No. 63, ½ dozen in a box.

STANLEY'S PLUMBS AND LEVELS.

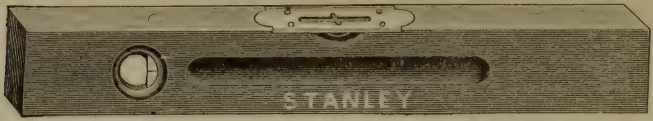


Fig. 994.

No.		Per Dozen.
104.	Plumb and Level, Arch Top Plate, Two Side Views, Polished, Assorted, 12 to 18 inches, ...	$14.00
$1\frac{1}{2}$.	Mahogany Plumb and Level, Arch Top Plate, Two Side Views, Polished, Assorted, 18 to 24 inches, ...	16.50
$1\frac{3}{4}$.	Same as No. $1\frac{1}{2}$, except is Brass Lipped Side Views, Polished and Tipped, Assorted, 12 to 18 inches, ...	27.00

ADJUSTABLE PLUMBS AND LEVELS.

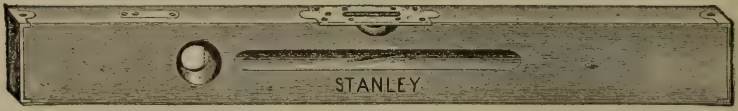


Fig. 995.

No.		Per Dozen.
1.	Patent Adjustable Mahogany Plumb and Level, Arch Top Plate, Two Side Views, Polished, Assorted, 24 to 30 inches, . .	$27.00
2.	Patent Adjustable Plumb and Level, Arch Top Plate, Two Brass Lipped Side Views, Polished, Assorted, 24 to 30 inches, .	27.00
3.	Patent Adjustable Plumb and Level, Arch Top Plate, Two Side Views, Polished and Tipped, Assorted, 18 to 24 in., 24 to 30 in.,	30.00
9.	Patent Adjustable Plumb and Level, Arch Top Plate, Two Ornamental Brass Lipped Side Views, Polished, Assorted, 24 to 30 inches,	48.00
10.	Patent Adjustable Plumb and Level, Triple Stock, Two Ornamental Brass Lipped Side Views, Arch Top Plate, Polished and Tipped, 24 to 30 inches, ...	60.00
11.	Patent Adjustable Rosewood Plumb and Level, Arch Top Plate, Two Ornamental Brass Lipped Side Views, Polished and Tipped,	90.00

PROVED LEVEL GLASSES.

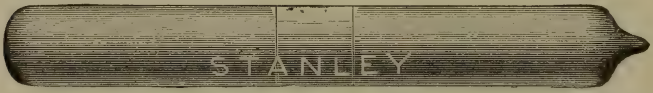


Fig. 996.

Made of extra thick tubing. By a patented process each Level Glass is marked at its highest or crowning point by two indelible lines, and each Plumb Glass with a single line. The owner can thus easily set the Glass accurately in its proper position.

Length, inches,	1 to $1\frac{3}{4}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$
Per gross, . . .	$9.50	10.00	10.50	11.50	13.00	14.50	16.00

Assorted, $1\frac{3}{4}$, 3 and $3\frac{1}{2}$ inch, . Per gross, $12.00.

GROUND LEVEL GLASSES.

The inside surfaces of these Glasses are ground perfectly smooth, and thus the bubble is made extremely sensitive.

Length, inches, .	1 to $1\frac{3}{4}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$
Per dozen, . .	$5.00	6.00	6.50	7.00	7.50	8.00	9.00

MASONS' PLUMBS AND LEVELS.

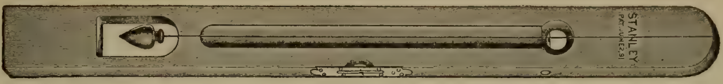


Fig. 997.

No.		Per Doz.
7.	Masons' Plumb and Level, Arch Top Plate, two Plumbs, two Side Views, Polished and Tipped, 36 inches	$36.00
35.	Patent Adjustable Masons' Plumb and Level	48.00

Adapted also for Plumb Bob Line 42 inches.

PLUMB BOBS.

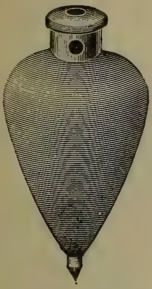


Fig. 998.

IRON AND LEAD.

IRON JAPANNED.

Nos.	1	2	$2\frac{1}{2}$	3	4
Weight, each, lbs.	$\frac{5}{8}$	$\frac{7}{8}$	$1\frac{1}{2}$	$2\frac{1}{4}$	$2\frac{3}{4}$
Per dozen	$1 90	2.05	3.75	4.90	5.20

LEAD, STEEL POINTED.

Nos.	1	2
Weight, each, lbs.	$\frac{3}{4}$	$1\frac{1}{4}$
Per dozen	$6.85	8.95

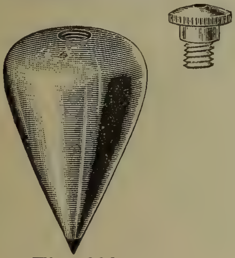


Fig. 999.

BRASS.

BRASS, STEEL POINTED.

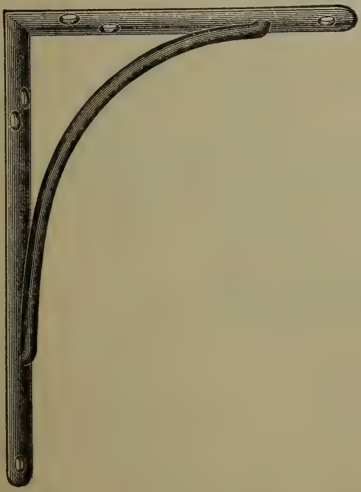
Nos.	1	2	$2\frac{1}{2}$	3	4
Weight, each, lbs.	$\frac{5}{8}$	$\frac{3}{4}$	$1\frac{1}{4}$	2	$3\frac{1}{4}$
Per dozen	$9.30	13 00	17.55	23.10	30.55

CAST BRASS, STEEL POINTED.

No. 20.	Weight, each, $\frac{3}{8}$ lbs., per dozen	$7.80
" 21.	" $\frac{5}{8}$ " "	10.90

Half dozen in a box.

WROUGHT STEEL SHELF BRACKETS.



JAPANNED, NO. 140.

Size, inches	3x4	4x5	5x6
Per dozen pairs	$0.96	1.36	2.20
Size, inches	5x7	6x8	7x9
Per dozen pairs	$2.40	3.00	3.60
Size, inches	8x10	10x12	12x14
Per dozen pairs	$4.20	6.00	9.00

3x4 and 4x5 are packed one dozen pairs in a box; others half dozen pairs.

Fig. 1000.

COAT AND HAT HOOKS.

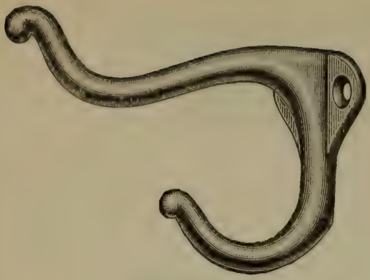


Fig. 1001.

No.	Projection. Inches.		Per Gross.
8639½	3¼.	Polished Kahala Bronze .	$6.00
7639½	3¼.	" Antique Copper finish	9.75
639½	3¼.	Unpolished, Bronze Plated	8.15
639	3¼.	Polished, " "	14.65

Cast Metal.

One-sixth gross in a box. Packed with screws.

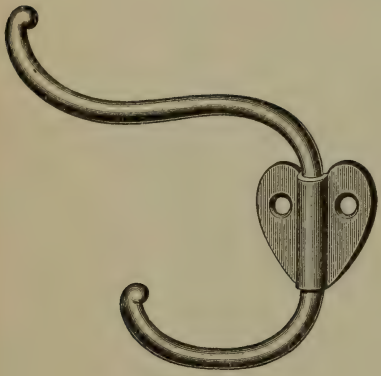


Fig. 1002.

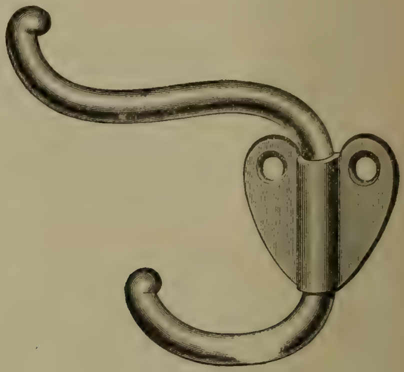


Fig. 1003.

WROUGHT METAL.

No.	Projection. Inches.		Per Gross.	No.	Projection. Inches.		Per Gross.
7137	3¼.	Bronze Plated .	$10.90	7138	3¼.	Bronze Plate .	$13.80
137	3¼.	Real Bronze .	28.60	138	3¼.	Real Bronze .	59.00

BAGGAGE-CAR HOOK.

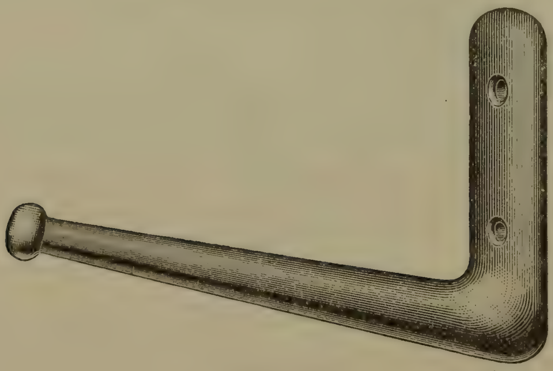


Fig. 1004.

CAST METAL, JAPANNED.

No. 10. Size, 6 inches. Per gross, $11.70

One-sixth gross in a box.

DOOR TRIMMINGS.

STEEL DOOR HANGERS.

ANTI-FRICTION.

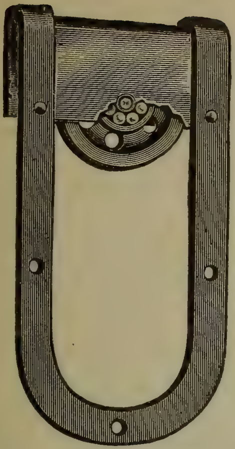


Fig. 1005.

With the exception of the wheels, these Hangers are built entirely of Steel and are so constructed that they will not get out of order under the roughest usage. They are fully covered; have cold rolled steel axles, and Nos. 1 and 2 are anti-friction on any length of track. They will meet all requirements.

No. 0 Solid Axle	Per doz. pairs	$10.00
" 1 Special, Roller Bearing .	" "	13.00
" 2 Standard, " .	" "	18.00
" 3 Ex. Heavy, " .	" "	22.00

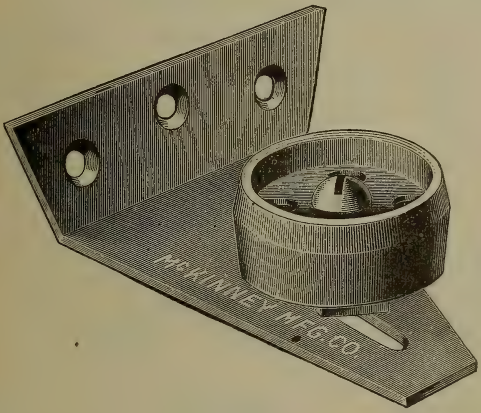

McKINNEY MFG. CO.

Fig. 1006.

ADJUSTABLE STAY ROLLERS.

Adjustable to doors of any thickness.

Size No. 1, per single doz. . $2.50

STEEL TRACK FOR DOOR HANGERS.

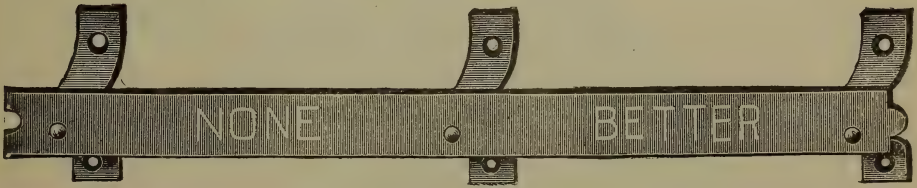
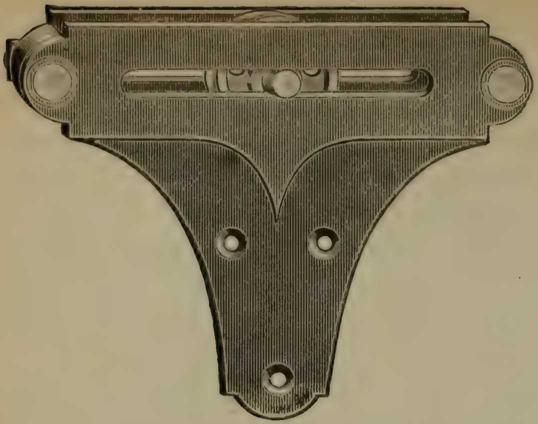


Fig. 1007.

		No. of Pieces of Track in Each Bundle.				
Size.	Price per foot.	Lengths 4 feet.	Lengths 6 feet.	Lengths 8 feet.	Lengths 10 feet.	Lengths 12 feet.
1 x $\frac{3}{16}$	6 cents	12	8	8	6	6
$1\frac{1}{4}$ x $\frac{3}{16}$	7 "	12	8	8	6	6
$1\frac{1}{2}$ x $\frac{3}{16}$	9 "	12	8	8	6	6

Our Track is STRAIGHT, well made and securely bundled.



HANGING SHEAVES FOR BAGGAGE AND FREIGHT CAR DOORS.

IRON CASE, TURNED WHEEL.

Fig. 1008.

No.	Size of Wheel. Inches.	Size of Frame. Inches.	Length of Run. Inches.	Per Pair.
34	$2\frac{3}{4}$x$\frac{1}{2}$	$8\frac{1}{2}$x$10\frac{3}{4}$	27	$7.15

SASH PULL SOCKETS.

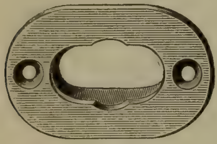


Fig. 1009.

Cast Metal.

BRONZE PLATED.

No.	Size, Inches.	Per Doz.
07020.	$1\frac{3}{8}$x$2\frac{1}{4}$	$1.00

PULL DOWN HOOKS.

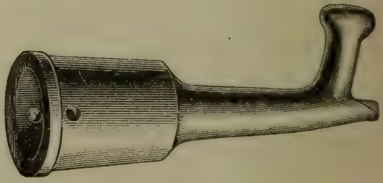


Fig. 1010.

Cast Metal.

BRONZE PLATED.

No.		Per Doz.
7027.	. . . . . .	$2.45
8027.	Kahala Bronze . .	1.30

BARREL BOLTS.

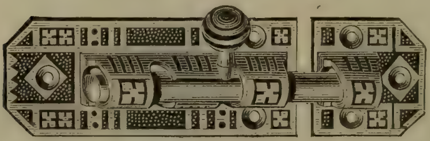


Fig. 1011.

Cast Metal.

Kahala Bronze (dark brown) Wrought Iron Bolt, Real Bronze Knob.

No.	Size, inches	$2\frac{1}{2}$	3	4	5	6
8001.	Per dozen	$1.45	1.65	1.95	2.35	2.60

Bronze Plated, Black Back Ground, Light Polished Bronze Relief.

No.	Size, inches	$2\frac{1}{2}$	3	4	5	6
7001.	Per dozen	$				

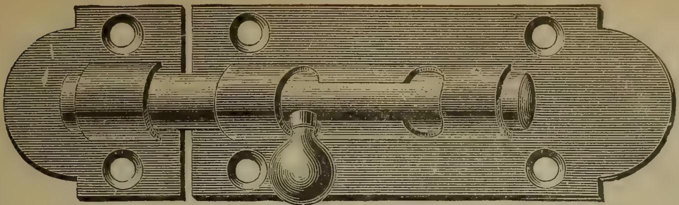


Fig. 1012

WROUGHT STEEL BARREL BOLTS.

One dozen in a box.

LIGHT BRASS KNOBS, JAPANNED PLATES, POLISHED BOLTS.

Size, inches	$2\frac{1}{2}$	3	4	5	6
Per dozen	$1.50	1.90	2.15	2.50	2.90

WROUGHT STEEL SQUARE BOLTS.

JAPANNED PLATES, POLISHED BOLTS, STEEL SPRINGS.

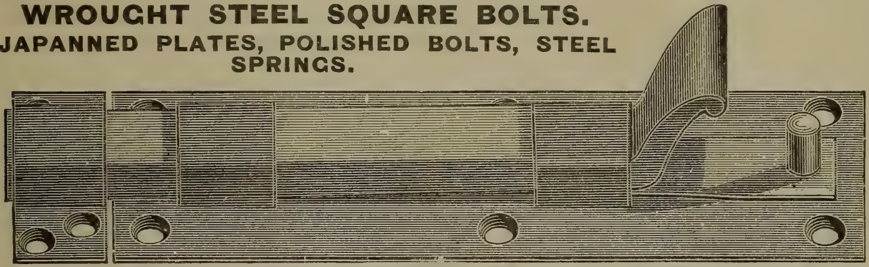


Fig. 1013.

Size, inches	4	5	6	7	8	9	10	12
Per dozen	$2.50	2.65	2.85	3.75	4.00	4.35	6.50	7.00
Size of bolt, inch	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{5}{8}$

4 to 6 inch, one dozen in a box; 7 to 12, half dozen.

SQUARE NECK BOLTS.

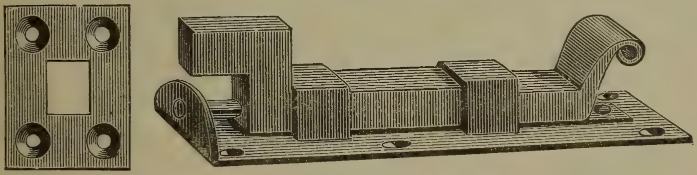


Fig. 1014.

Japanned Plates, Polished Bolts.

Size, inches.	Per Doz.
4	$2.90
6	4.30
8	5.50

ROUND NECK BOLTS.

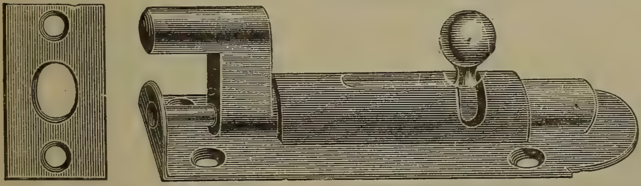


Fig. 1015.

Japanned Plates, Polished Bolts, Brass Knobs.

Size, Inches.	Per Doz.
4	$3.65
5	3.85
6	4.10

WROUGHT SPRING BOLTS, JAPANNED PLATES, POLISHED BOLTS.

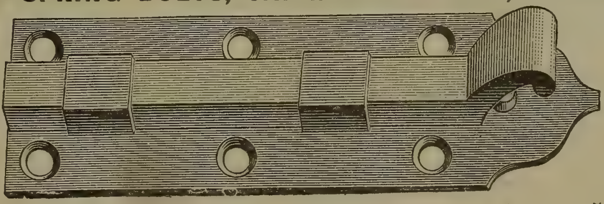
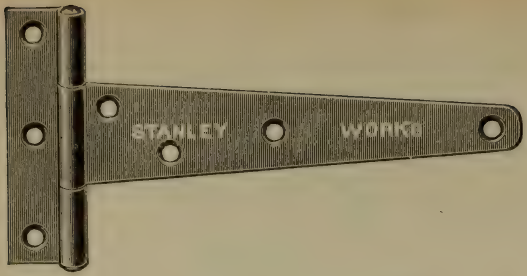


Fig. 1016.

No.	0	1	2	3	4	5	6	$6\frac{1}{2}$
Inch	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5	6
Per dozen	$1 10	1.20	1.35	1.60	1.80	2.10	2.25	2.70

All Brass, Polished.

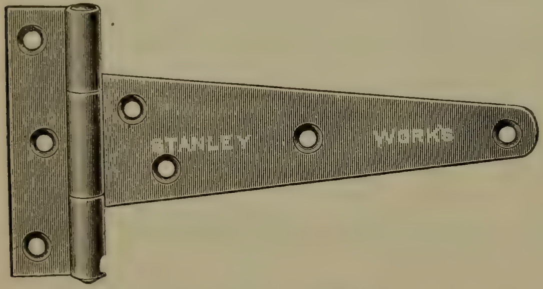
No.	$18\frac{1}{2}$	19	20	21	22	23	24
Inch	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	5
Per dozen	$2 25	2.70	3.25	4.00	4.30	5.15	5.40



LIGHT T HINGES.

Fig. 1017.

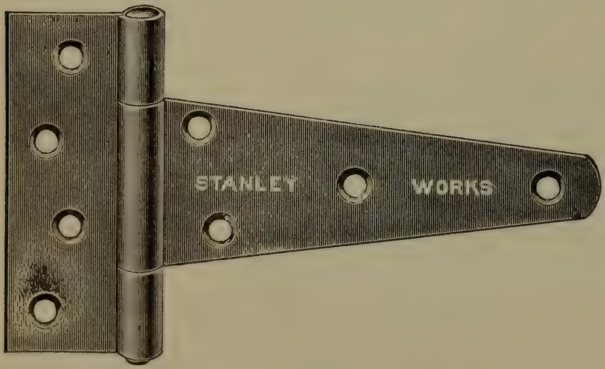
Size,	Inches,	3	4	5	6	8	10	12	14
Plain Steel,	Per doz. pairs,	$1.15	1.25	1.55	1.85	2.35	3.45	4.70	6.10
Galvanized Steel,	" "	2.05	2.50	3.00	3.60	5.25	6.70	9.75	15.00
Width at joint,	Inches,	$1\frac{1}{16}$	$1\frac{1}{16}$	$1\frac{3}{16}$	$1\frac{1}{4}$	$1\frac{9}{16}$	$1\frac{3}{4}$	$2\frac{1}{8}$	$2\frac{1}{4}$
Length of "	"	$2\frac{1}{2}$	$2\frac{3}{4}$	3	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$4\frac{3}{4}$	$5\frac{1}{2}$
Size of screw,	No.	7	7	8	8	9	10	11	12
Weight,	Per doz pairs, lbs.,	2	3	$5\frac{1}{2}$	6	$8\frac{1}{2}$	$12\frac{1}{2}$	$20\frac{1}{2}$	..



HEAVY T HINGES.

Fig. 1018.

Size,	Inches,	4	5	6	8	10	12	14	16	18
Plain Steel,	Per doz. pairs,	$1.95	2.25	2.70	3.40	5.00	7.00	9.60	11.70	12.50
Galvanized Steel,	" "	2.50	3.00	4.35	6.00	8.25	13.75	19.50	21.00	23.00
Width at joint,	Inches,	$1\frac{5}{16}$	$1\frac{3}{8}$	$1\frac{9}{16}$	$1\frac{3}{4}$	2	$2\frac{7}{16}$	$3\frac{1}{8}$	$3\frac{1}{8}$	$3\frac{1}{8}$
Length of "	"	3	$3\frac{1}{2}$	$3\frac{1}{2}$	4	$4\frac{1}{2}$	$5\frac{1}{2}$	6	6	6
Size of screw,	No.	8	8	9	10	11	12	13	14	14
Weight,	Per doz. pairs, lbs.,	$3\frac{1}{2}$	6	9	$11\frac{1}{2}$	$18\frac{1}{2}$	31	46	..	..



EXTRA HEAVY T HINGES.

Fig. 1019.

Size,	Inches,	4	5		6	8	10	12	14	16
Plain Steel,	Per doz. pairs,	$2.80	3.85.	Per lb.,	$0.24	.23	.21	.21	.21	.21
Galvanized Steel,	" "	4.50	6.00.	" "	.38	.38	.35	.32	.30	.28
Width at joint,	Inches,	$1\frac{5}{8}$	$1\frac{13}{16}$		$2\frac{5}{16}$	$2\frac{5}{8}$	$3\frac{1}{8}$	$3\frac{3}{8}$	$3\frac{3}{8}$	$3\frac{3}{8}$
Length of "	"	$3\frac{1}{2}$	4		$4\frac{1}{2}$	$5\frac{1}{2}$	7	$7\frac{3}{4}$	$7\frac{3}{4}$	$7\frac{3}{4}$
Size of screw,	No.	10	10		11	13	14	16	17	17
Weight,	Per doz. pairs lbs.,	7	13		$19\frac{1}{2}$	32	54	81	87	94

Above Galvanized Hinges have Galvanized Steel Pins.

STRAP HINGES.

LIGHT STRAP HINGES.

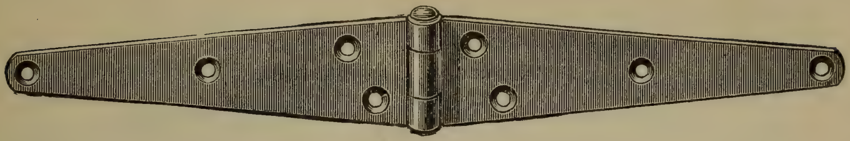


Fig. 1020.

Size, inches	3	4	5	6	8	10	12	14
Plain steel, per doz. pairs	$1.35	1.80	2.20	2.85	4.00	5.50	8.00	10.50
Galvanized, with solid steel pins, per doz. pairs	1.85	2.50	3.40	4.25	7.10	8.70	16.00	18.50
Width at joint, inches	$1\frac{1}{8}$	$1\frac{1}{8}$	$1\frac{5}{16}$	$1\frac{9}{16}$	$1\frac{7}{8}$	$2\frac{1}{16}$	$2\frac{3}{4}$	$2\frac{13}{16}$
Size screw, No.	6	7	8	9	10	10	12	13
Weight, per doz. pairs, lbs.	3	$5\frac{1}{4}$	7	9	$14\frac{1}{2}$	21	33	. .

HEAVY STRAP HINGES.

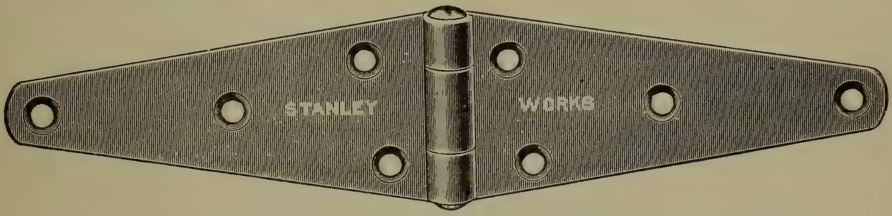


Fig. 1021.

Size, inches	4	5		6	8	10	12	14	16
Plain steel, per doz. pairs	$2 45	3.50	per lb.	.23	.21	.20	.20	.20	.20
Galvanized, with solid steel pins, per dozen pairs	3.40	4.60	per lb.	.38	.38	.35	.32	.32	.30
Width at joint, inches	$1\frac{9}{16}$	$1\frac{13}{16}$		$2\frac{1}{2}$	3	$3\frac{7}{16}$	4	$4\frac{1}{2}$	$4\frac{5}{8}$
Size of screw, No.	9	10		11	12	14	16	16	16
Weight, per doz. pairs, lbs.	6	$10\frac{1}{2}$		19	34	50	77	88	

HOOK HINGES, WOOD SCREW HOOK.

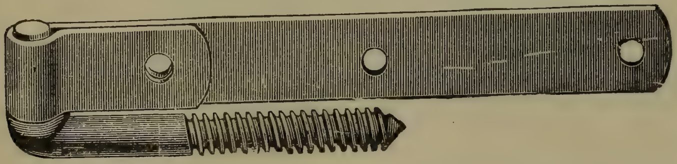


Fig. 1022.

Size, inches	6, 8, 10, 12	14, 16, 18, 20	22, 24, 26, 28, 30, 36
Price, per lb.	$0.06	$.05\frac{3}{4}$	$.05\frac{1}{4}$

"PERFECT" HASPS AND STAPLES.

PATENTED.

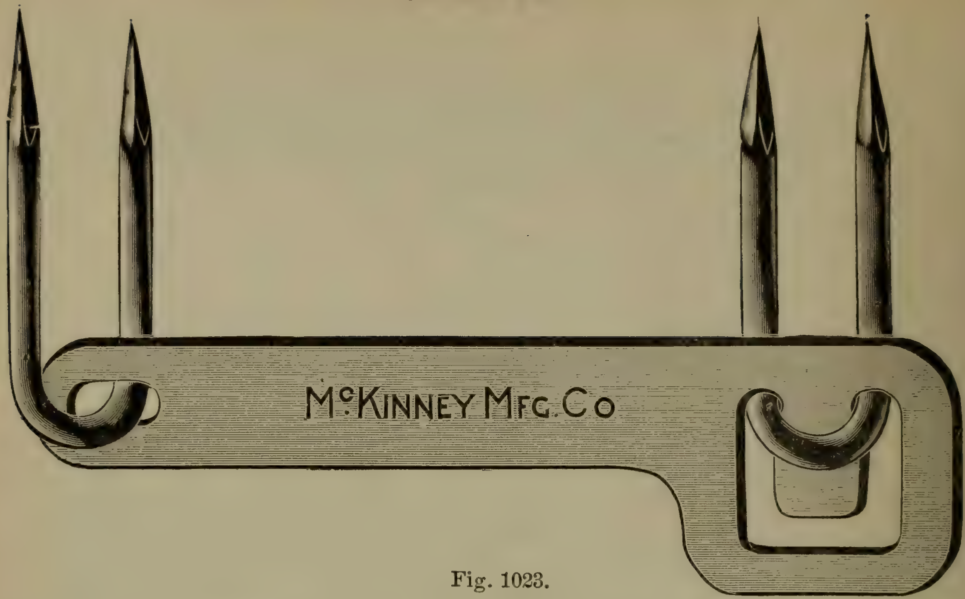


Fig. 1023.

Size	8	8 heavy.
Per single dozen, with staples	$1.10	1.30
No. of hasps in paper box	1 doz. (single)	1 doz. (single).

It cannot be opened accidentally, as the weight of the head and shape of slot hold it securely in place. It can be locked with padlock same as any other hasp. It can be used on either right or left hand doors.

HINGE HASPS

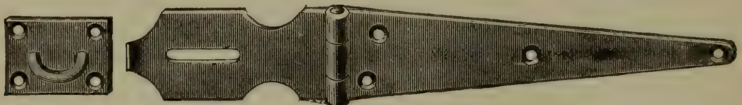
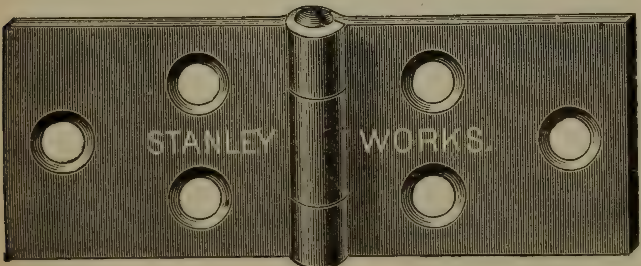


Fig. 1024.

Size, inches		3	4 1/2	6	8	10	12
Plain Steel	Per single doz.	$0.85	1.05	1.35	1.80	2.60	3.55
Galvanized	Per doz. pairs	$3.35	4.25	6.00	9.50	13.25	
Width at joint, inches		1 1/8	1 1/8	1 1/2	1 7/8	2 3/16	2 3/4
Size of Screw No.		6	7	9	10	10	12


STANLEY WORKS.

WROUGHT STEEL BACK FLAPS.

BRIGHT.

PATENT RIVETED.

Fig. 1025.

Size, inches	3/4	7/8	1	1 1/8	1 1/4	1 3/8	1 1/2	1 3/4	2
Per dozen pairs	$0.70	.75	.80	.90	1.00	1.10	1.20	1.45	1.70
Width, open, inches	2 3/4	2 13/16	2 7/8	3	3 3/16	3 3/16	3 7/16	4	4 3/8
Size of Screw No.	6	6	6	6	6	7	8	8	9
Square, per doz. pairs			$0.75	.80	.90	1.00	1.05	1.30	1.40
Width, open, inches			2	2 1/4	2 5/16	2 9/16	2 3/4	3 3/16	3 11/16

All Back Flaps have 6 screw holes.

WROUGHT STEEL NARROW BUTTS.

LIST OF HEAVY NARROW BUTTS.

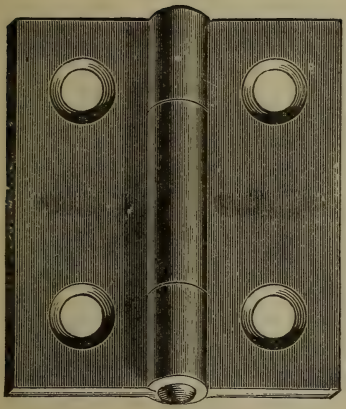


Fig. 1026.

Length, Inches.	Bright Steel. Per Doz. Pairs.	Galvanized, with Brass Pins, Per Doz. Pairs.	Width Open, Inches.	Size of Screw No.	Screw Holes in Each Butt.
1	$0 40		1¼	5	4
1¼	.50		$1\frac{5}{16}$	6	4
1½	.65	$1.40	1½	7	4
1¾	.80		$1\frac{9}{16}$	7	4
2	.90	2.00	1¾	8	4
2¼	1.05		$1\frac{13}{16}$	8	6
2½	1.10	2.60	1⅞	8	6
2¾	1.30		$2\frac{1}{16}$	9	6
3	1.45	3.15	2⅛	9	6
3¼	1.70		2¼	9	6
3½	2.00	4 80	$2\frac{9}{16}$	10	6
3¾	2.70		2⅝	10	6
4	2.85	6.50	2⅞	10	8
4½	3.70	8.00	3	11	8
5	4 60	10.00	3⅜	12	8
5½	6.00		$3\frac{13}{16}$	13	8
6	7.10		4⅛	13	8

LIST OF LIGHT NARROW BUTTS.

Length, Inches.	Bright Steel, Per Dozen Pairs.	Planished and Bronzed, Per Dozen Pairs, with Screws.	Galvanized with Brass Pins, Per Dozen Pairs.	Width, Open, Inches.	Size of Screw No.	Screw Holes in Each Butt.
¾	$0 40	$0.50		$\frac{11}{16}$	2	4
1	.40	.65		1	3	4
1¼	.50	.70		$1\frac{1}{16}$	3	4
1½	.65	.75	$1.30	$1\frac{7}{16}$	5	4
1¾	.80	.83		$1\frac{7}{16}$	5	4
2	.90	.92	1.85	$1\frac{9}{16}$	6	4
2¼	1.05	1.03	2.15	$1\frac{11}{16}$	6	6
2½	1.10	1.13	2 40	$1\frac{11}{16}$	6	6
2¾	1.30	1.20		1⅞	7	6
3	1.45	1.25	3.00	2	7	6
3¼	1.70	1.60		2¼	9	6
3½	2.00	1 90	4.40	2½	9	6
3¾	2.70	2.25		$2\frac{9}{16}$	10	6
4	2.85	2.50	6.00	2⅞	10	8
4½	3.70	3.35		3	11	8
5	4.60	4.20		$3\frac{5}{16}$	12	8

CAST LOOSE PIN BUTTS.

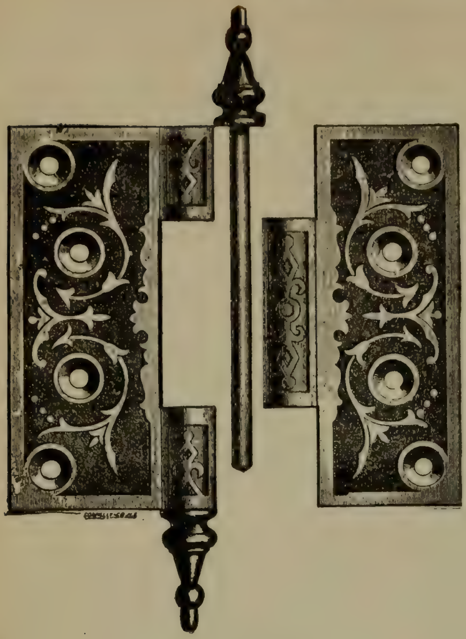


Fig. 1027.

STEEPLE TIPS.

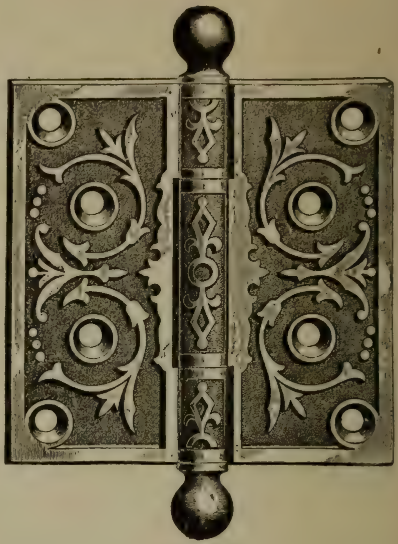


Fig. 1028.

BALL TIPS.

Length and Width Open, Inches.	Steeple Tips, Per Doz. Pairs.	Japanned Steeple Tips, Per Doz. Pairs.	Size of Screw, No.	Screw Holes in Each Butt.
2 x2	$1.00	$2.00	8	4
2 x2½	1.10	2.15	8	4
2½x2	1.20	2.30	8	6
2½x2½	1.35	2.50	8	6
2½x3	1.50	2.65	8	6
3 x2½	1.60	2.80	9	6
3 x3	1.75	3.00	9	6
3 x3½	1.95	3.25	9	6
3½x3	2.15	3.45	9	6
3½x3½	2.35	3.70	9	6
3½x4	2.50	4.00	12	6
4 x3½	2.70	4.25	12	8
4 x4	2.90	4.50	12	8
4 x4½	3 20	5.00	12	8
4 x5	4.00	5.40	12	8
4½x4	3.50	5.30	12	8
4½x4½	4.00	5.50	12	8
4½x5	4.20	6.20	12	8
5 x5	5.50	7.00	14	10
5 x5½	5.70	7.50	14	10
5 x6	6 50	8.00	14	10
5½x5½	6 50	8.50	14	10
6 x6	7.60	10.50	14	10

Fig. 1028. Ball Tips are same list as Steeple Tips, 2x2 to 3x3, packed one dozen pairs in a box; 3x3½ to 5x5 are packed ½ dozen in a box; 5x5½ and up, ¼ dozen in a box.

WROUGHT STEEL LOOSE PIN BUTTS.

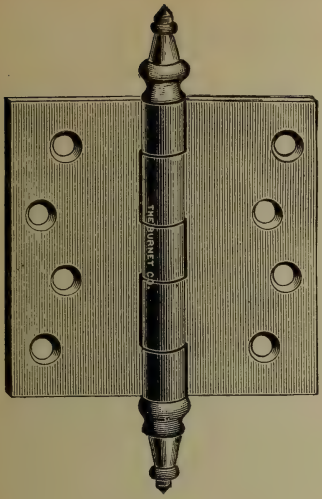

THE BURNET CO.

Fig. 1029.

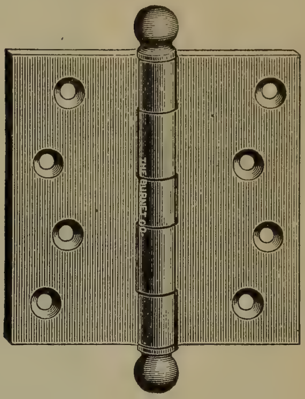

THE BURNET CO.

Fig. 1030.

WITH STEEPLE TIPS.

WITH BALL TIPS.

Length and Width Open, Inches.	Bright Steeple Tips, Per Doz. Pairs.	Japanned Steeple Tips, Per Doz. Pairs.	Size of Screw. No.	Screw Holes in each Butt.
2 x2	$3.50	$2.50	7	4
2 x2½	4.00	2.80	7	4
2½x2	4.00	2.90	8	6
2½x2½	4.30	3.00	8	6
3 x2½	4.80	3.30	9	6
3 x3	5.00	3.50	9	6
3 x3½	5.60	3.65	9	6
3½x3	5.70	3.80	10	6
3½x3½	6.00	4.00	10	6
3½x4	6.60	4.40	10	6
4 x3½	6.80	4.70	10	8
4 x4	7.40	5.00	10	8
4 x4½	8.00	5.40	10	8
4½x4	8.30	5.70	11	8
4 x5	8.50	5.80	10	8
4½x4½	8.90	6.00	11	8
4½x5	9.80	6.60	11	8
5 x5	11.40	7.50	12	8
5 x6	12.50	8.50	12	8
5 x7	15.50	10 00	12	8
5½x5½	14.50	9.00	13	8
6 x6	16.70	11.00	13	8

Fig. 1030 With Ball Tips same list as Steeple Tips.

2x2 to 5x5 packed ½ dozen pairs in a box. 5x6 and up ¼ doz. in a box.

POLISHED STEEL REVERSIBLE LOOSE PIN BUTTS.

Cut

Shows

3x3 Butt.

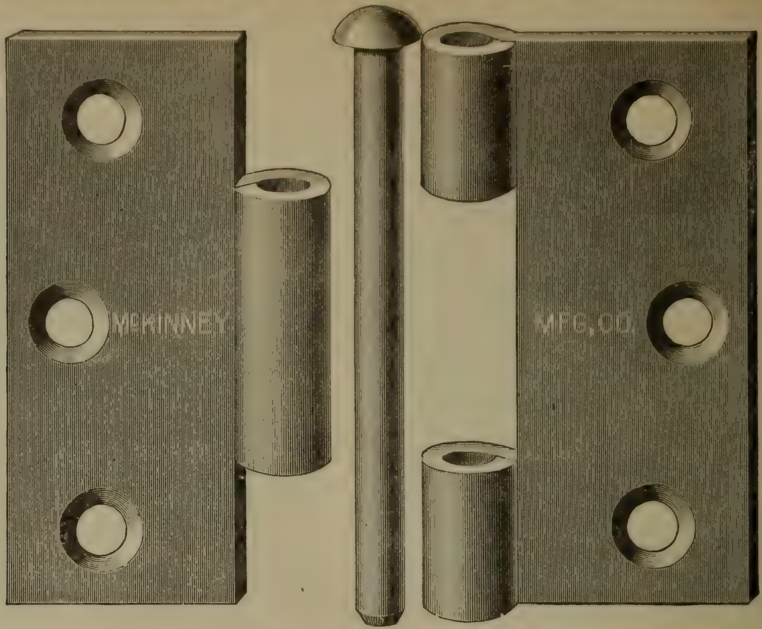


Fig. 1031.

Size open .	2x2	2x2½	2x3	2½x2	2½x2½	2½x3	3x2½
Per doz. pairs .	$1.40	1.50	1.70	1.60	1.80	2.20	2 40
Size of Screw .	No. 7	7	7	8	8	8	9
No. of Screws .	4	4	4	6	6	6	6
Size open .	3x3	3x3½	3½x3	3½x3½	3½x4	4x3½	4x4
Per doz. pairs .	$2.60	3.00	3.60	3 80	4.30	4.60	4.70
Size of Screw .	9	9	10	10	10	10	10
No. of Screws .	6	6	6	6	6	8	8
Size open .	4x4½	4½x4	4½x4½	4½x5	5x5	5½x5½	6x6
Per doz. pairs .	$4.80	5.30	5.90	6.50	7.70	9.60	11.40
Size of Screw .	10	11	11	11	12	13	13
No. of Screws .	8	8	8	8	8	8	8

PADLOCK.

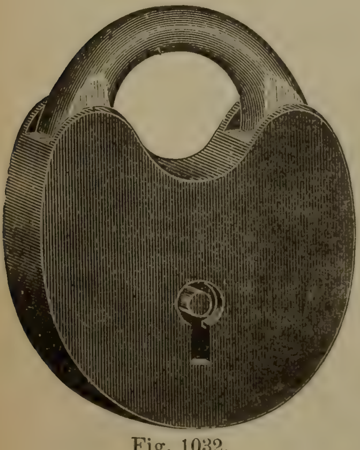


Fig. 1032.

DESCRIPTION.

All Bronze Metal, Highly Polished; Spring Self-locking, Spring Shackle, two Bronze Metal Drilled Barrel Keys.

	Size Across Case.	Per Doz.
Fig. 1032.	1⅝ inches	$3 50
Fig. 1033.	With 9-inch Japanned German Coil Chain	5.50
Fig. 1034.	1¾ inches	4.25
Fig. 1035	With 9-inch Japanned German Coil Chain	6.25
Fig. 1036.	2 inches	5.00
Fig. 1037.	With 9-inch Japanned German Coil Chain	7.00

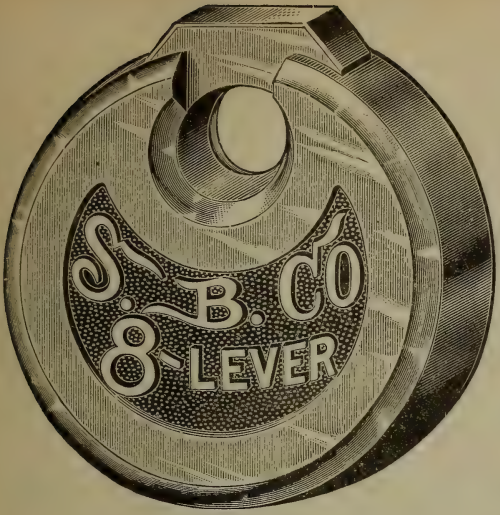


Fig. 1038.

8-LEVER PADLOCKS.

All Highest Grade.

DESCRIPTION.

Highest Grade; Very Heavy; Light, Flat; Cut Push Levers; Thousands of Key Changes; Phosphor-bronze Springs; Matrixed Bolt; Exterior Machine Finished, with Depressed Parts Finished in Brown Enamel; entire Lock and Interior Works of Gun Metal Bronze; Spring Shackle, Spring Self-locking.

Two Rolled Steel Keys, Milled and Plated.

	Size Across Case.	Per Doz.
Fig. 1038,	2¼ inches	$9.50
Fig. 1039, with 9-inch Japanned German Coil Chain . .		11.50

6-LEVER PADLOCKS.

Same Style as Above Illustration.

DESCRIPTION.

All Bronze Metal; Spring Sliding Shackle; all Parts Very Heavy; Push-key; Spring Self-locking; Phosphor-bronze Springs; Three Cast Bronze Arm Levers; Two points of Key Contact on each Lever.

Two Rolled Steel Nickel-plated Keys.

Fig. 1040.	Size 2 inches across case	Per doz.,	$8.00
" 1041.	With 8-inch German Coil Chain, Japanned, . .	" "	10 00

PADLOCK.

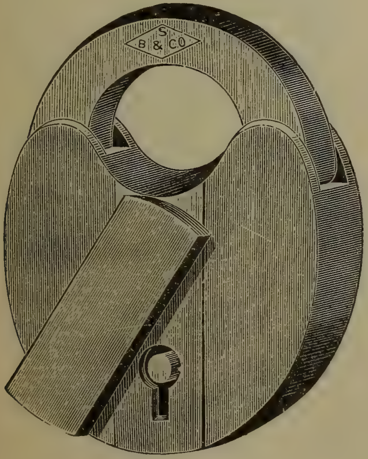


Fig 1042

All Parts Bronze Metal, Highly Polished; Spring Self-locking; Spring Shackle; Spring Key-hole Drop.

Bronze Metal Drilled Barrel Key, Two-keyed.

	Size Across Case.	Per Doz.
Fig. 1042	1⅝ inches	$5.80
" 1043	with Chain	7.75
" 1044	1⅞ inches	6.75
" 1045	with Chain	8.50
" 1046	2⅛ inches	7.50
" 1047	with Chain	9.50

ILLUSTRATION EXACT SIZE, FIG. 1042.

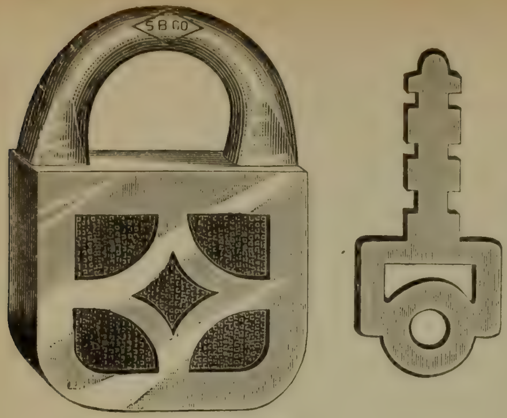


Fig. 1048.

PADLOCKS.

PATENTED.

FIG. 1048.

DESCRIPTION.

All parts Aluminum Bronze, Highly Polished; Spring Shackle; Spring Self-Locking.

Two Flat Steel Keys to Lock.

	Size Across Case.	Per Doz.
Fig. 1048	1⅜ inches	$2.10
" 1049	1½ "	2 35
" 1050	1⅝ "	2.50

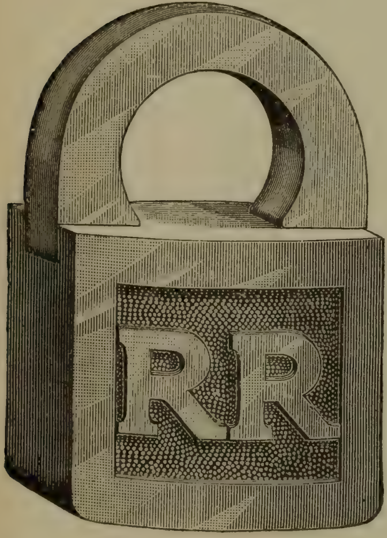


Fig. 1051.

FIG. 1051.

All parts Bronze Metal, Highly Polished, High Grade, Spring Self-Locking, Spring Shackle, Shackle Hole Plunger.

Two Rolled Steel Keys, Polished.

ILLUSTRATION EXACT SIZE.

	Size Across Case.	Per Doz.
Fig. 1051	1⅝ inches	$5.40

FIG. 1052.

Highest Grade; all parts Gun Metal Bronze, Highly Polished; Phosphor-Bronze Springs; Spring Self-Locking, Spring Shackle; Secure Tumblers; Extra Large Number of Stock Changes; Spring Plunger; Revolvable Key Cylinder.

Two Rolled Steel Nickel-Plated Keys.

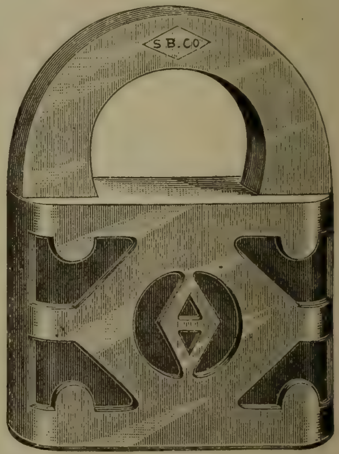


Fig. 1952.

Fig. 1052.	1¾ inches across case	Per doz.,	$8.00
Fig. 1053.	With 8-inch Japanned Welded Link chain . .	" "	10.00

ILLUSTATION EXACT SIZE FIG. 1052.

Fig. 1054.	2 inches across case	Per doz.,	$
" 1055.	2¼ " " "	" "	
" 1056.	2½ " " "	" "	

Furnished with 8 inch Welded Japanned Chain, extra price.

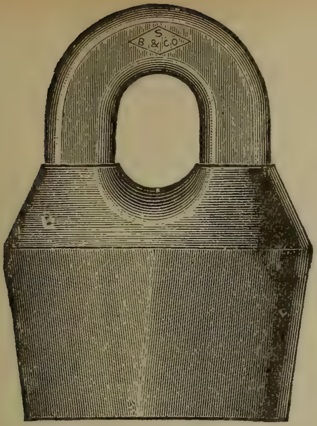


Fig. 1057.

PADLOCKS.

Fig 1057.

DESCRIPTION.

Iron and Steel. High-Grade, Key-Locking Black Enameled Case and Polished Shackle; Rolled Steel Tumblers, cut; two Rolled Steel Polished Keys.

	Size Across Case.	Per Doz.
Fig. 1057.	1⅝ inches.	$3.10
Fig. 1058.	With 9-inch Coil Chain.	3.90
Fig. 1059.	1⅞ inches.	3.60
Fig. 1060.	With 9-inch Coil Chain.	4.60
Fig. 1061.	2¼ inches.	4.00
Fig. 1062.	With 9 inch Coil Chain.	5.00

Illustration exact size Fig. 1057.

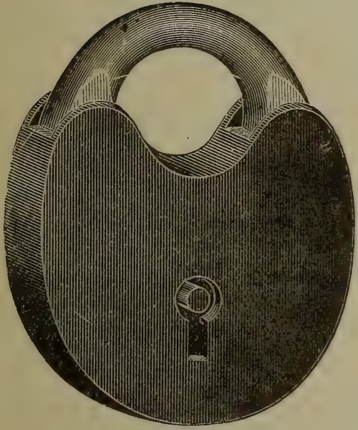


Fig. 1063.

Fig. 1063.

DESCRIPTION.

All Steel; Nickeled Shackle, Rust-Proof Case; Brass Interior Works; Spring Self-Locking; Spring Shackle; two Cast-Steel Drilled Keys.

	Size Across Case.	Per Doz.
Fig. 1063.	1⅝ inches.	$2.10
Fig. 1064.	1¾ inches.	2.35
Fig. 1065.	2 inches.	2.90

Illustration exact size Fig. 1063.

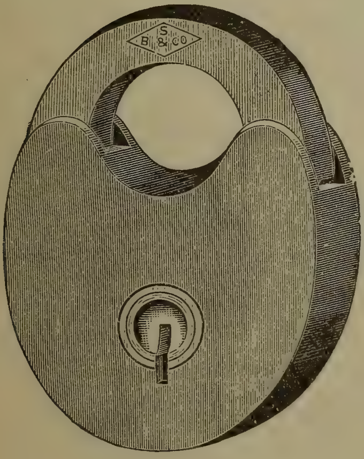


Fig. 1066.

Fig. 1066.

DESCRIPTION.

All Bronze Metal, Highly Polished; Spring Self-Locking; Spring Shackle; Milled Key Bushing; two Rolled Steel Keys.

	Size Across Case.	Per Doz.
Fig. 1066.	1⅝ inches.	$6.60
Fig. 1067.	With 8-inch Steel Chain.	8.15
Fig. 1068.	1⅞ inches.	7.60
Fig. 1069.	With 8-inch Steel Chain.	9.15
Fig. 1070.	2 inches.	8.70
Fig. 1071.	With 8-inch Steel Chain.	11.00

Illustration exact size 1066.

SWITCH LOCKS.

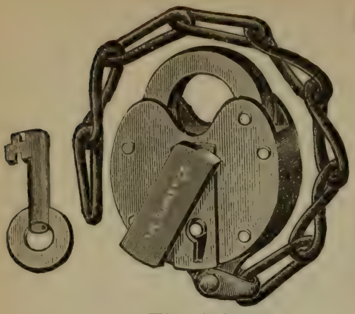


Fig. 1072.

SPECIAL R. R. SWITCH OR CAR-DOOR LOCK, MADE TO FIT ANY KEY FURNISHED, AND WITH INITIALS OF ANY COMPANY EITHER CAST OR STAMPED ON THE LOCK.

Fig. 1072. Size across case, 2½ inches.

DESCRIPTION.

Extra heavy; all Gun Metal Bronze; Spring Shackle, Spring Self-locking; extra heavy Cast Bronze Tumblers, Bolt and Shackle-throw; heavy Spring-drop Keyhole Cover; German Coil Chain.

Price per dozen for Locks without Keys . $10.50

Fig. 1073 same as Fig. 1072, but without Chain, per dozen	$8.80
Self-cleaning Barrel, all Bronze Metal, machine finished keys, per dozen .	$2.10
Ordinary Barrel, machine finished, all Bronze Metal " " " .	1.70

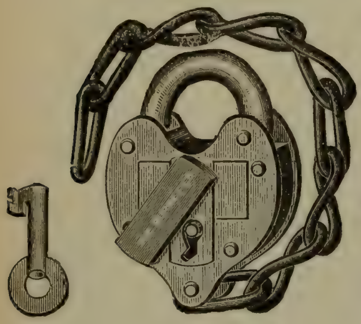


Fig. 1074.

SPECIAL R. R. SWITCH OR CAR-DOOR LOCK, MADE TO FIT ANY KEY FURNISHED, AND WITH INITIALS OF ANY COMPANY EITHER CAST OR STAMPED ON THE LOCK.

Fig. 1074. Size across case, 2½ inches.

DESCRIPTION.

All parts best Gun Metal Bronze; Tumblers and Shackle-throw very heavy and stout; Phosphor-bronze indestructible Springs; Spring-drop Keyhole Cover; Spring Shackle, Spring Self-locking; heavy German Coil Chain, Japanned.

Price per dozen for Locks without Keys . $12.85

Self-cleaning Barrel, all Bronze Metal, machine finished keys, per dozen .	$2.10
Ordinary Barrel, machine finished, all Bronze Metal " " " .	1.70

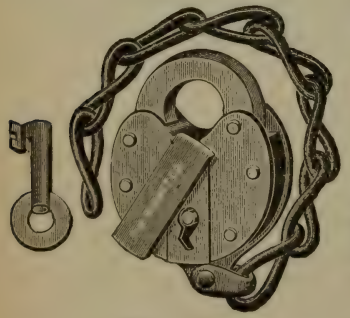


Fig. 1075.

SPECIAL R. R. SWITCH OR CAR-DOOR LOCKS, MADE TO FIT ANY KEY FURNISHED AND WITH INITIALS OF ANY COMPANY EITHER CAST OR STAMPED ON THE LOCK.

Fig. 1075. Size across case, 2⅜ inches.

DESCRIPTION.

Highest grade; extra heavy and strong; all parts of Aluminum-nickel-bronze Alloy, patented; 40,000 lbs. tensile strength; Phosphor-bronze Springs; heavy Tumblers and Bolts; Shackle Hole Plunger, automatically closing Shackle Opening when Shackle is disengaged from interior mechanism, thereby excluding cinders and other foreign matter from the interior of Lock; Drain Hole in bottom of Lock to permit water to run therefrom; heavy Spring-drop Keyhole Cover; Spring Shackle, Spring Self-locking; 9-inch Welded Link Japanned Iron Chain.

Price per dozen for Locks without Keys	$12.85
Fig. 1076. 2⅜ inches, same as Fig. 1075, but all parts Gun Metal Bronze	12.35
Fig. 1077. 2⅜ inches, same as Fig. 1075, but without Chain . . .	11.60
Fig. 1078. 2⅜ inches, same as Fig. 1076, but without Chain . . .	11.10
Self-cleaning Barrel, all Bronze Metal, machine finished keys, per dozen .	$2.10
Ordinary Barrel, machine finished, all Bronze Metal " " " .	1.70

SWITCH LOCKS.

SWITCH AND CAR-DOOR LOCKS, IF DESIRED, MADE TO FIT ANY KEY FURNISHED.

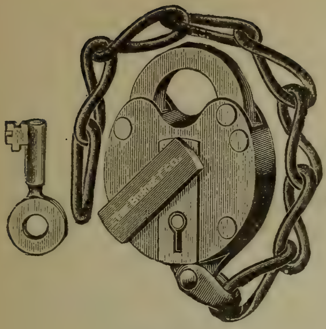


Fig. 1077.

Size across case . . . . . 2¼ inches

DESCRIPTION.

All Gun Metal Bronze; Heavy Bronze Metal Sliding Bolt; Pivoted Tumblers; Spring-Drop Keyhole Cover; Phosphor-Bronze Springs; Spring Self-Locking, Spring Shackle; Rough Body finish; 9 inch Welded Link German Coil Chain, Japanned, attached to each Lock.

Per dozen without keys	$8.75
" with one key to each lock . .	10.00
" with two keys to each lock .	11.25

Fig. 1078 same as above, but without chain.

Per dozen, without keys	$8.15
" with one key to each lock	9.40
" with two keys to each lock	10.60

Kind of Keys.

Friction Finished, Side-Bit, Bronze Metal Drilled Keys.

SWITCH AND CAR-DOOR LOCKS, IF DESIRED, MADE TO FIT ANY KEY FURNISHED.

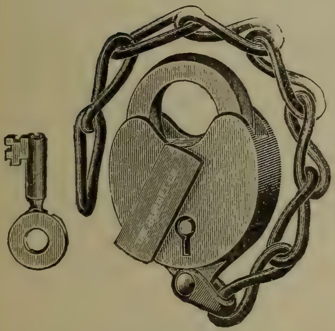


Fig. 1079.

Size across case . . . . . 2¼ inches

DESCRIPTION.

All Gun Metal Bronze; Extra Secure and Durable; Heavy Bolt; Pivoted Tumblers; Phosphor Bronze Springs; Spring Keyhole Drop Cover; Spring Self-Locking, Spring Shackle; Polished as illustration; 9-inch Welded Link German Coil Chain, Japanned, attached to each Lock.

Per dozen, without keys . . .	$10.00
" with one key to each lock .	11 25
" with two keys to each lock .	12.50

Fig. 1080 same description as above, but without chain.

Per dozen, without keys	$8.75
" with one key to each lock	10.00
" with two keys to each lock	11.25

Kind of Keys.

Friction-Finished Side-Bit, Bronze Metal Drilled Keys.

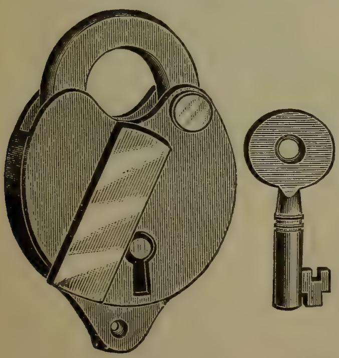


Fig. 1081.

BRASS SWITCH AND CAR PADLOCKS.

No.	Size, Inches.		
Fig. 1081.	2¼	Self-Locking, Spring Shackle and Drop, per doz. . .	$13.65
Fig. 1082.	2¼	Self-Locking Spring Shackle and Drop, with Iron Chain, per doz.	15.60

SALOON LOCK AND LATCH.

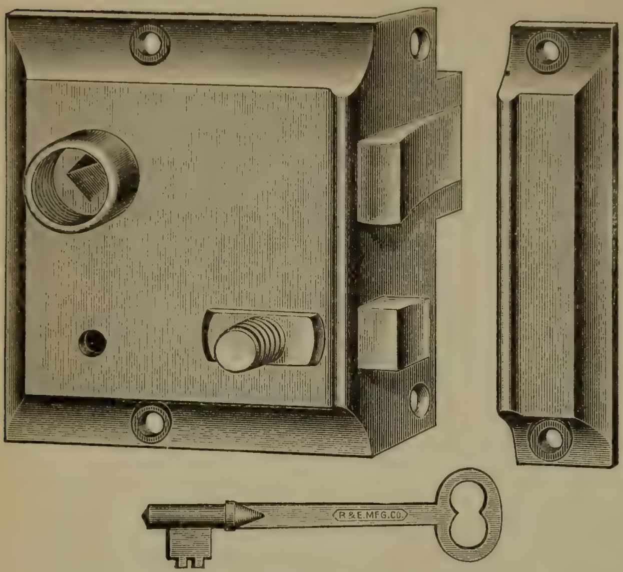


Fig. 1082.

Key operates Slide Bolt from outside the door with screwless knobs.

BRASS.

$\frac{3}{8}$-inch Bolt, with Slide Bolt, size $4\frac{3}{4}$x$3\frac{5}{8}$ inches, with oval Brass Knob and escutcheon.

No.	Per Doz.
145.	$72.00

Centre of Hub to front, $2\frac{3}{8}$ inches.

Centre of Hub to Keyhole, $1\frac{5}{8}$ inches.

This lock is furnished with either Brass or Steel Keys.

CAR DOOR KNOBS.

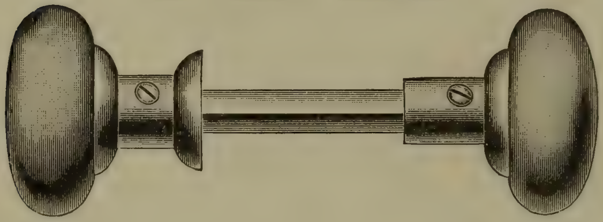


Fig. 1083.
No. 182, $\frac{3}{8}$-Inch Plain Spindle.

No.	Diameter, Inches.		Per Doz. Pairs.
181.	$2\frac{1}{4}$	Nickel Plated	$20.00
182.	$2\frac{1}{4}$	Brass	14.00
185.	$2\frac{1}{4}$	Mineral Knob Japanned Shank and Rose	1.50
191.	$2\frac{1}{4}$	Porcelain " " " "	2.00

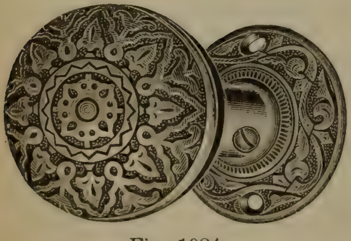


Fig. 1084.

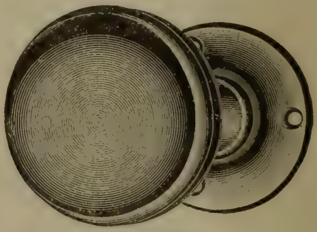


Fig. 1085.

REAL BRONZE POLISHED NATURAL COLOR.

$\frac{3}{8}$-Inch Spindle.

Fig. 1084.	Diameter, inches, $2\frac{1}{4}$	Per doz. pairs, $12.00
Fig. 1085.	" " $2\frac{1}{4}$	" " 15.00

SALOON LATCHES.

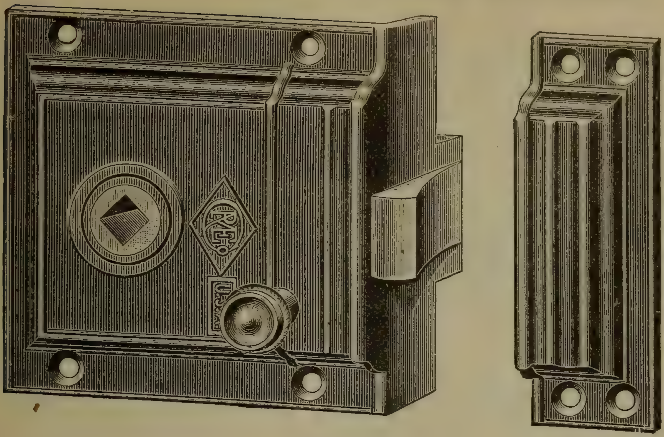


Fig. 1086.

JAPANNED.

⅜ inch Hub.

Iron Bolt with Stop.

Size,

4 x 4 inches.

No.	Per Doz.
260	$13.50

Centre of Hub to front, 2½ inches.

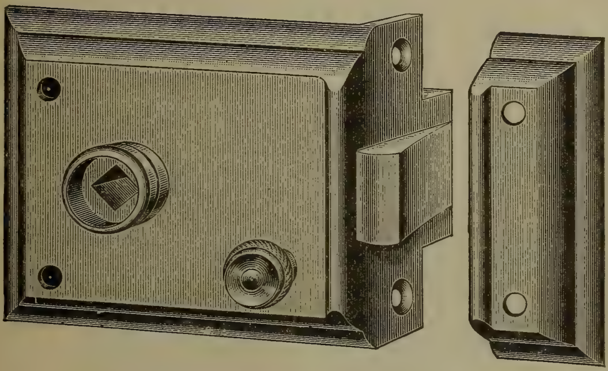


Fig. 1087.

BRASS AND NICKEL PLATED.

⅜ inch Hub.

Size, 3¾ x 3¼ inches.

No.

261. Brass Bolt with Stop.

263. " " " Slide Bolt.

Centre of Hub to front 2½ inches.

	Brass.	Nickel Plated.
No.	Per Doz.	Per Doz.
261	$36.00	$40.00
263	36.00	40.00

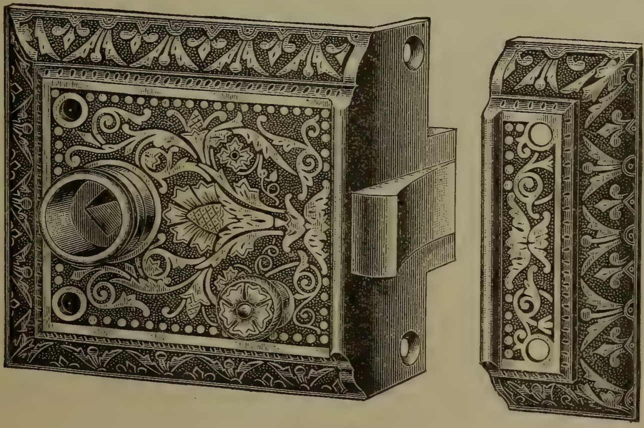


Fig. 1088.

ORNAMENTED, REAL BRONZE, POLISHED NATURAL COLOR.

⅜ inch Hub.

Size, 3¾ x 3¾ inches.

Centre of Hub to front, 2⅛ inches.

For knobs, see page 298.

Car locks furnished to order to fit any key desired.

No. 264.	Iron Latch Bolt, with Stop with Knobs, Fig. 1084	Per doz., $54.00
" 265.	Brass " " " " " " " "	" " 60.00
" 266.	" " " without " " " " "	" " 54.00

Illustrations half size.

CAR BLIND LIFTS AND PULLS.

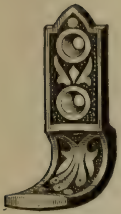


Fig. 1089.

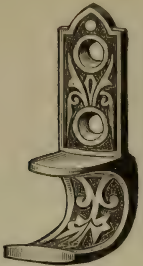


Fig. 1090.

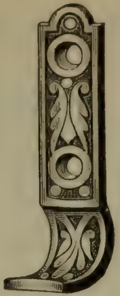


Fig. 1091.

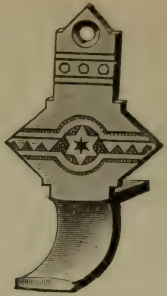


Fig. 1092.

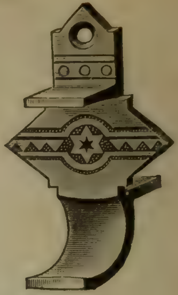


Fig. 1093

No.	Size, Inches.		Per Doz.
Fig. 1089.	$2\frac{1}{4}$	Real Bronze, polished	$2.00
Fig. 1090.	$2\frac{3}{4}$	“ “	2.75
Fig. 1091.	3	“ “	2.50
Fig. 1092.	3	“ “	2.50
Fig. 1093.	3	“ “	2.75

CAR WINDOW LIFTS.

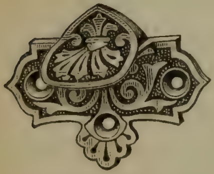


Fig. 1094.

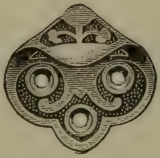


Fig. 1095.

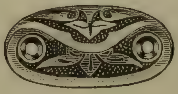


Fig. 1096.

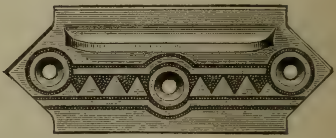


Fig. 1097.

No.	Size, Inches.		Per Doz.
Fig. 1094.	$2\frac{1}{8}$x$1\frac{3}{4}$	Real Bronze, polished . . .	$2.00
Fig. 1095.	$1\frac{1}{2}$x$1\frac{1}{2}$	“ “ . . .	2.25
Fig. 1096.	$\frac{7}{8}$x$1\frac{3}{4}$	“ “ . . .	1.80
Fig. 1097.	$1\frac{1}{4}$x$2\frac{3}{8}$	“ “ . . .	2.75

PUSH CAR WINDOW LIFT.

CAR BLIND BOLT.

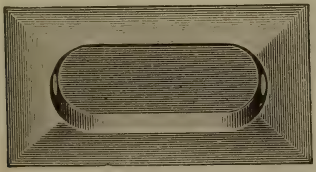


Fig. 1098.

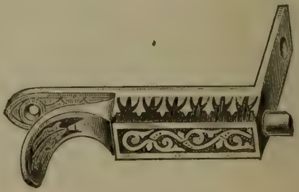


Fig. 1099.

No.	Size, Inches.		Per Doz.
Fig. 1098.	$3\frac{1}{8}$x$1\frac{5}{8}$	Real Bronze, polished . . .	$3.50
Fig. 1099.	3 x $\frac{5}{8}$	“ “ . . .	5.00

All the above are one dozen in a box, packed with screws.

CAR WINDOW LOCKS, WITHOUT STOPS.

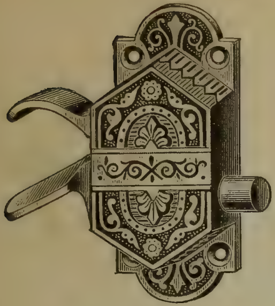


Fig. 1100.

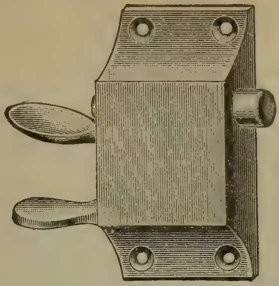


Fig. 1101.

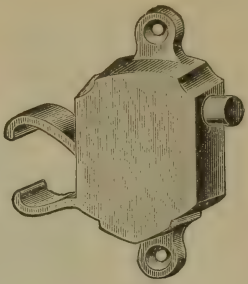


Fig. 1102.

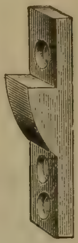


Fig. 1103.

No.	Size, Inches.		Per Dozen.
Fig. 1100.	3 x1¼.	Real Bronze Polished, ...	$6.00
Fig. 1101.	2¾x1⅜.	" " "	4.50
Fig. 1102.	1¼x2¾.	" " "	4.50
Stops (Fig. 1103) for Car Window Locks (Figs. 1100, 1101, 1102) . .			1.25

HOME DOOR CHECK FOR CAR DOORS.

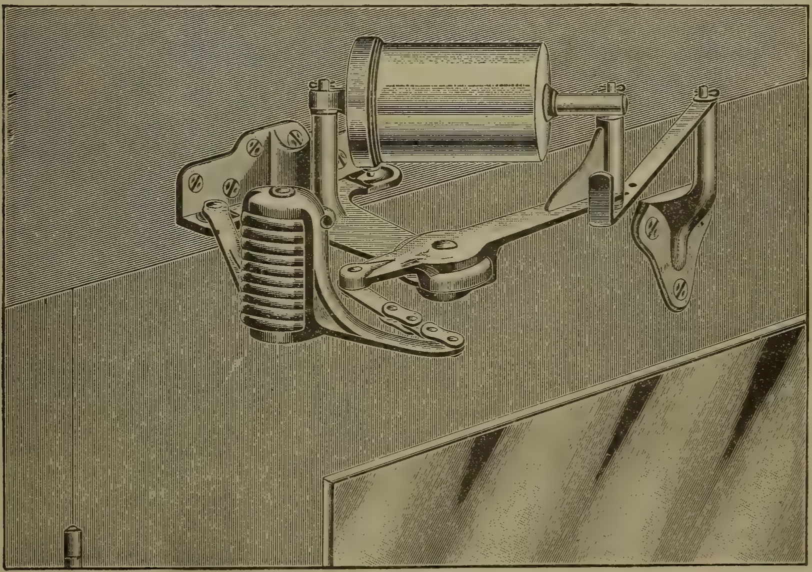


Fig. 1104.

This Check has been in successful operation on many prominent railways for several years, and is the only check which successfully meets the severe demands of car service.

PNEUMATIC.

No.		Each.
302.	Bronze Plated with Nickel-plated Cylinder, ...	$5 45

One in a box. Packed with screws. Full directions for putting on packed with each.

COLUMBIA PNEUMATIC DOOR CHECK AND SPRING.

GOLD BRONZE FINISH.

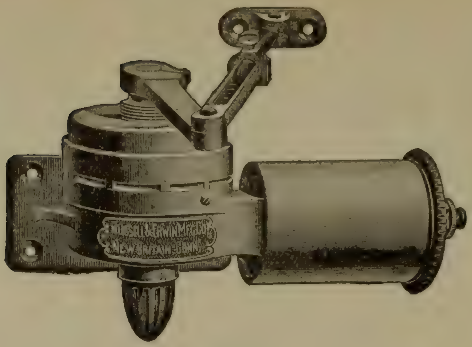

RUSSELL & ERWIN MFG. CO.
NEW BRITAIN CONN.

Fig. 1105.

ATTACHED TO DOOR, AND EXERTING A PUSHING ACTION.

No.		Each.
450.	For light inside doors	$6.50
451.	" inside doors, not more than 3 ft. wide, and for outside doors, not more than 2½ ft. wide	8.15
452.	For heavy inside doors	8.80
453.	" outside doors, not more than 3 ft. wide	9.75
454.	" heavy outside doors	13.20
455.	" " " (extra strong spring)	13.20

ATTACHED TO DOOR AND EXERTING A PULLING ACTION.

1450.	For light inside doors	$6.50
1451.	" inside doors, not more than 3 ft. wide, and for outside doors, not more than 2½ ft. wide	8.15
1452.	For heavy inside doors	8.80
1453.	" outside doors, not more than 3 ft. wide	9.75
1454.	" heavy outside doors	13.20
1455.	" " " (extra strong spring)	13.20
2450–2450S.	For light inside doors	$7.50
2451–2451S.	" inside doors, not more than 3 ft. wide, and for outside doors, not more than 2½ ft. wide	9.10
2452–2452S.	For heavy inside doors	9.75
2453–2453S.	" outside doors, not more than 3 feet wide . . .	10.75
2454–2454S.	" heavy outside doors	14.15
2455–2455S.	" " " (extra strong spring) . . .	14.15

These door checks and springs may be used for either right or left hand doors. Full directions for applying and reversing are packed with each check.

Nos. 450 to 455. Applied to right hand door hinge side.
" 1450 to 1455. " " " casing "
" 2450 to 2455. " to left " " "
" 2450S to 2455S. " to right " " "

Numbers with "S" added have bracket to go on casing.

DOOR PULLS.

Illustrations Half Size.

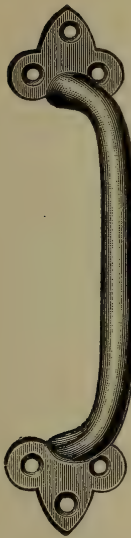


Fig. 1106.

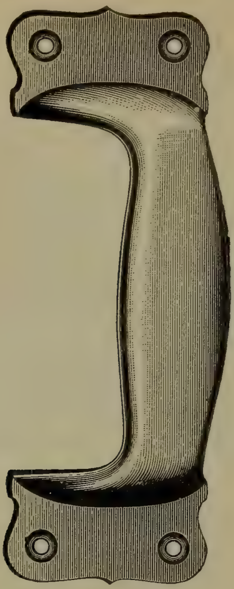


Fig. 1107.

CAST METAL.

No.	Size, Inches.		Per Doz.
Fig. 1106.	5¼	Real Bronze finish	$7.35
Fig. 1107.	6	" " "	11.40

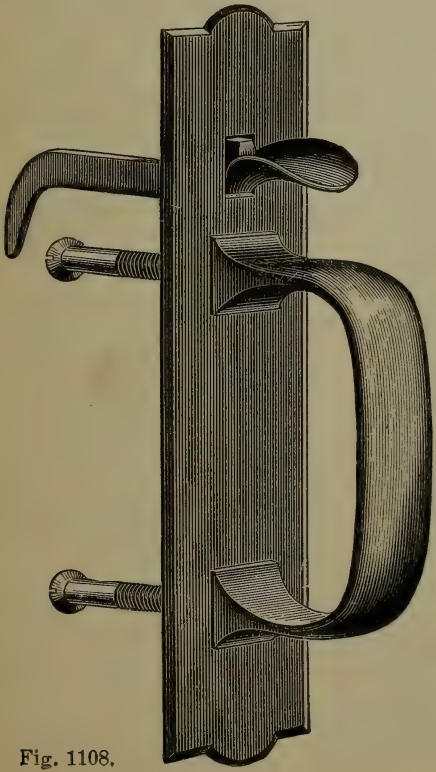


Fig. 1108.

DOOR HANDLES.

JAPANNED.

Either Right or Left Hand,

Complete with

Latch Guide and Catch.

No.	Size, Inches.	Per Doz.
Fig. 1108.	8x1⅞	$3.60

WROUGHT STEEL UPRIGHT RIM KNOB LOCKS.

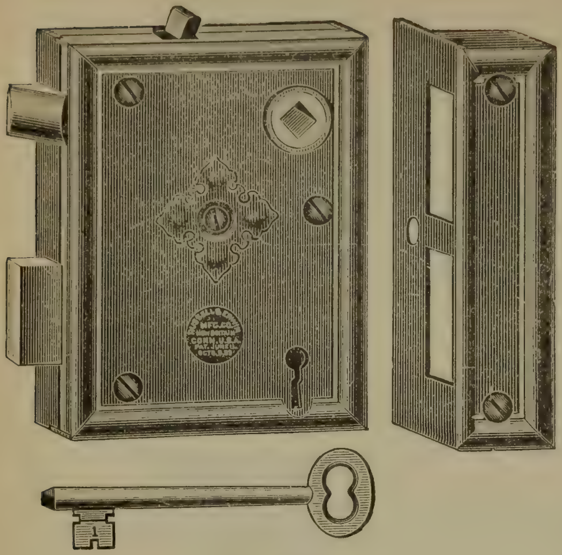


Fig. 1109.

Janus Face, Reversible Latch Bolt, Steel Tumblers, Nickel-plated Keys, with stop.

IVORY BLACK CASES.

Size, 4x$3\frac{1}{8}$ Inches.

No.	Bolts.	Tumblers.	Changes.
3800	Iron	1	4
3804	Brass	1	4

Centre of hub to keyhole, $2\frac{1}{2}$ in.
" " front, $2\frac{5}{16}$ "

To change the hand, take off the cap and turn over the latch.

PRICE.

No.	Per Dozen.
3800	$4.10
3804	5.20

WROUGHT STEEL UPRIGHT RIM KNOB LOCKS.

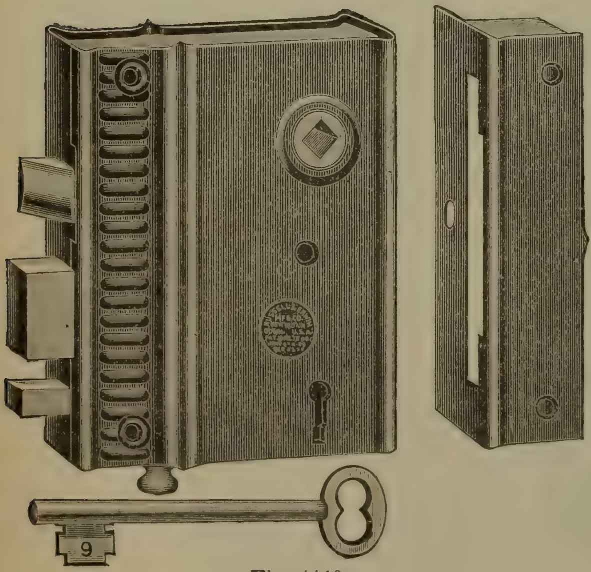


Fig. 1110.

Janus Face, Reversible Latch Bolt, Steel Tumblers, Nickel-plated Solid Keys.

IVORY BLACK CASES.

With Steel Solid Bolt.

Size, $4\frac{1}{4}$ x $3\frac{3}{8}$ Inches.

No.	Bolts.	Tumblers.	Changes.
3830	Steel	1	12
3834	Brass	1	12

Centre of hub to keyhole, $2\frac{9}{16}$ in.
" " front, $2\frac{5}{16}$ "

To change the hand, take off the cap and turn over the latch

PRICE.

No.	Per Dozen.
3830	$7.15
3834	9.45

Illustrations Half Size.

UPRIGHT RIM KNOB LOCKS.

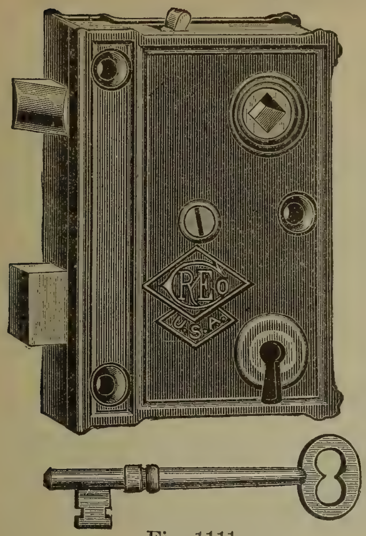


Fig. 1111.

Janus Face, Reversible Latch Bolt, Solid Keys.

WITH STOP.

Size, . 4x3 Inches.

No. 1888.	Iron Bolts, .	Per doz., $2.75
No. 0888.	Brass " . .	" " 5.20

Centre of hub to front, 2¼ inches.

To change hand, take off cap, and turn over latch and hub.

WITH SLIDE BOLT.

No. 855.	Iron Bolts, .	Per doz., $3.60
No. 0857.	Brass " . .	" " 6.20

Illustration half size.

WROUGHT STEEL HORIZONTAL RIM KNOB LOCKS.

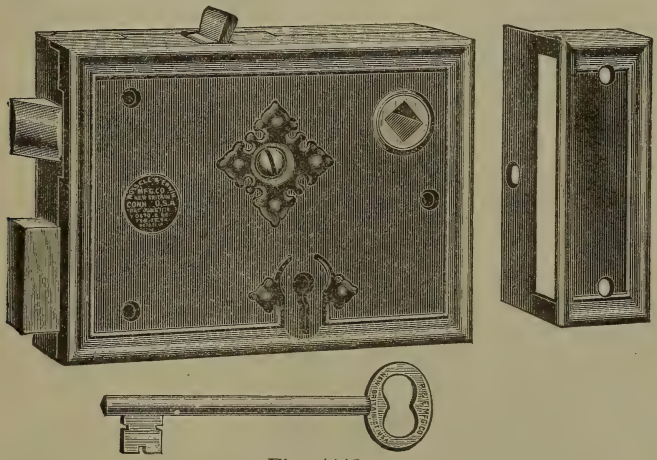


Fig. 1112.

Janus Face, Reversible Latch Bolt, Steel Tumblers, Solid Keys.

WITH STOP.

IVORY BLACK CASES.

No.	Size, Inches.	Bolts.	Tumblers.	Changes.	Per Dozen.
3200	4½x3¼	Steel	1	4	$4.40
3204	4½x3¼	Brass	1	4	5.55

Nickel-plated Keys.
Centre of hub to front, 3 1/16 inches.

WITHOUT STOP.

"City Pattern" Hub and Key hole in Horizontal Alignment.

No.	Size, Inches.	Bolts.	Tumblers.	Changes.	Per Dozen.
3249	4¾x3	Brass	1	6	$6.05

Centre of hub to front, 4¼ inches.
Illustration half size.

WROUGHT STEEL HORIZONTAL RIM CLOSET OR DEAD LOCKS.

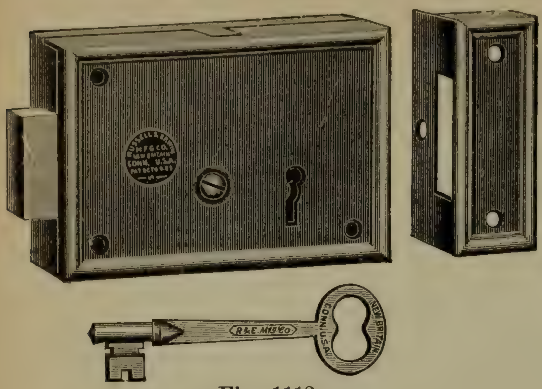


Fig. 1113.

NICKEL-PLATED SOLID KEYS.
IVORY BLACK CASES.

Size, 2¾x2 inches.

No.	Bolt.	Changes.	Per Doz.
3600.	Iron.	4	$2.60
3606.	Brass.	12	4.40

Double-throw Bolts.

Size, 3½x2½ inches.

No.	Bolt.	Change.	Per Doz.
3610.	Iron.	4	$4 10

Key-hole to front, 2⅛ inches.

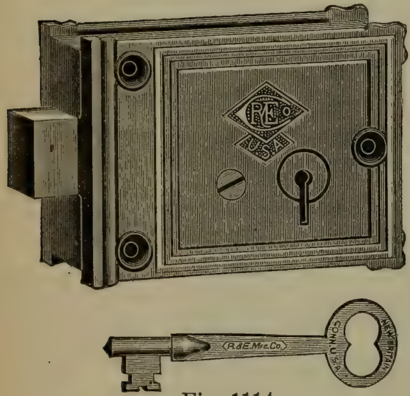


Fig. 1114.

NICKEL-PLATED SOLID STEEL KEYS.

Size, 3½x2½ inches.

No.	Bolt.	Tumblers.	Changes.	Per Doz.
1607.	Iron.	1	12	$3.90

Key-hole to front, 2½ inches.

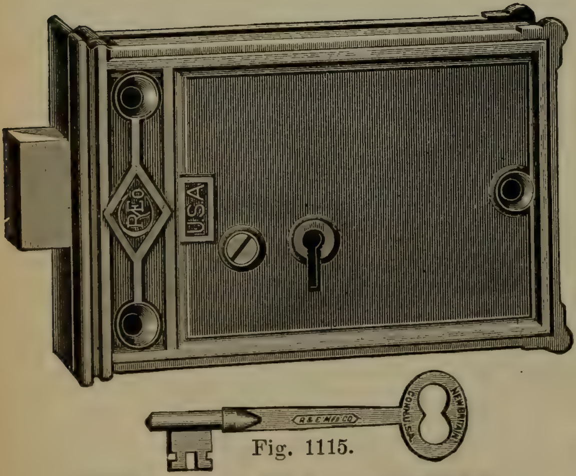


Fig. 1115.

NICKEL-PLATED SOLID STEEL KEYS.

Size, 5x3⅜ inches.

No.	Bolt.	Changes.	Per Doz.
1613.	Iron.	6	$8.15

Key-hole to front, $2\frac{7}{16}$ inches.

SECRET GATE LATCHES.

Size, 2½x2 inches.

No.	Case.	Bolt.	Per Doz.
556.	Iron Japanned.	Iron.	$10.90
656.	Bronze.	Bronze.	21.15

Above illustrations half size.

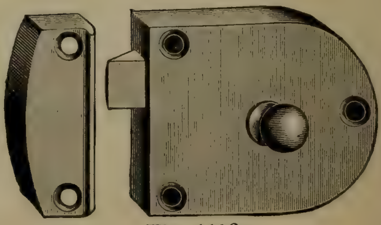


Fig. 1116.

WROUGHT STEEL HORIZONTAL RIM KNOB LATCHES.

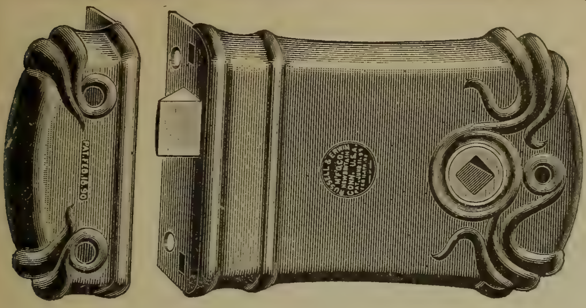


Fig. 1117.

IVORY BLACK CASES.

Iron Bolt and Hub.

Size, 4x2½ Inches.

No. 3550. Per Dozen, $2 45

With Steel Slide Bolt.

Iron Bolt and Hub, Brass Knob.

No. 3552. Per Dozen, $3.25

Centre of hub to front, 2¾ in.

WROUGHT STEEL HORIZONTAL RIM NIGHT LATCHES.

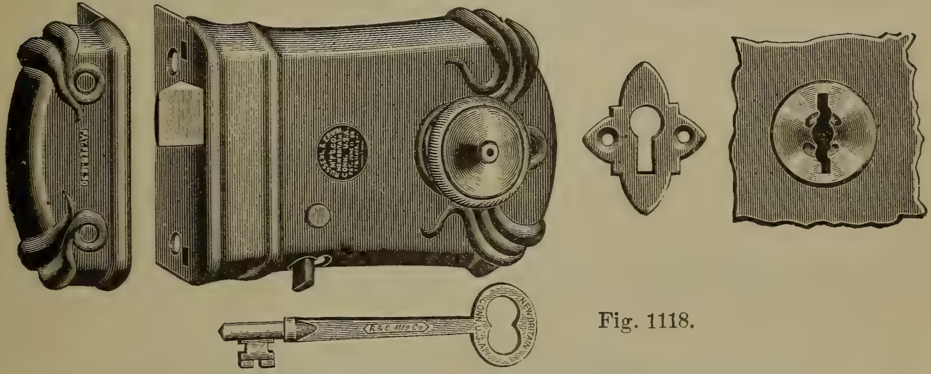


Fig. 1118.

For Right or Left Hand Doors. Two Nickel-plated Solid Steel Keys.

WITH STOP. IVORY BLACK CASES.

No.	Size. Inches.	Bolt.	Turn Knob.	Tumbler.	Changes.	Per Dozen.
3765	4x2½	Iron	Brass	1	6	$8.80

Key to front, 2⅞ inches.

REAL BRONZE PLATE ESCUTCHEONS, TWO NICKEL-PLATED STEEL KEYS, WITH CYLINDER AND STOP.

For 1 to 2 inch Right or Left Hand Doors.

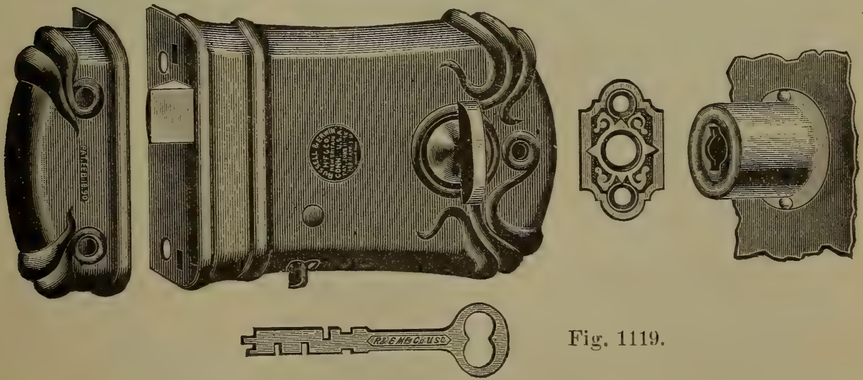


Fig. 1119.

No.	Size, Inches.	Bolt.	Turn Knob.	Tumblers.	Changes.	Per Dozen.
3767	4x2½	Iron	Brass	3	24	$10.60
3768	4x2½	Brass	Brass	3	24	12 20

Key to front, 2⅞ inches. Above illustrations half size.

HORIZONTAL RIM NIGHT LATCHES, WITH CYLINDER.

Real Bronze Plate, Escutcheon, two Nickel plated Steel Keys

For 1 to 2 inch right or left hand doors.

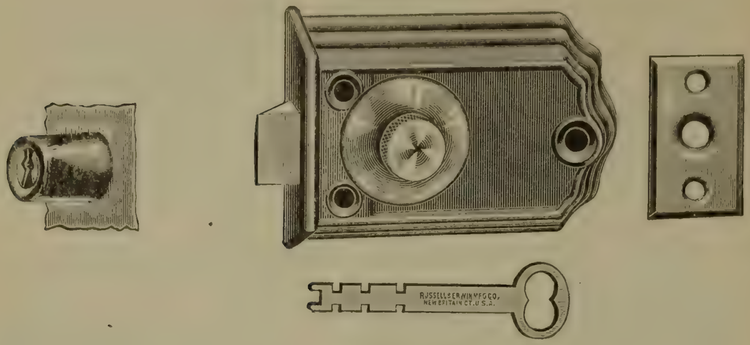

RUSSELL&ERWIN MFG.CO.
NEW BRITAIN CT. U.S.A.

Fig. 1120.

No.	Size, Inches.	Bolt.	Slide Knob.	Tumblers.	Changes.	Per Doz.
669.	3½x2¼	Iron.	Nickel-Plated.	3	21	$8.15

Key to front, 2⅛ inches.

RUSSWIN HORIZONTAL RIM NIGHT LATCHES, PIN TUMBLER.

For right or left hand doors.

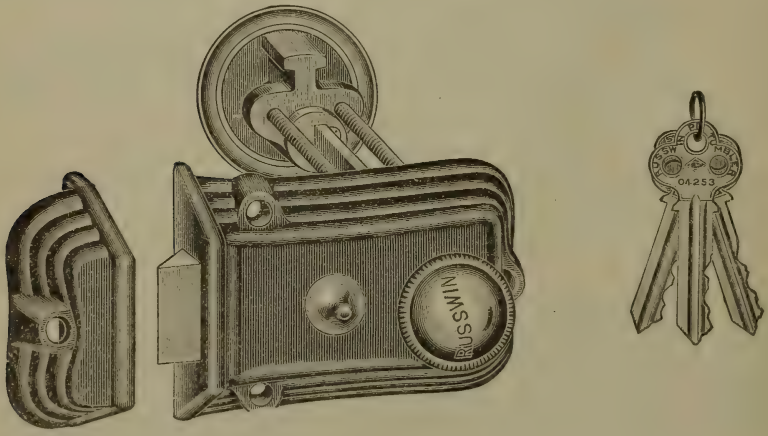


Fig. 1121.

THREE GOLD-PLATED GERMAN SILVER KEYS, WITH STOP.

Adjustable, for 1¼ to 3 inch doors.

No.	Size, Inches.		Per Doz.
P1290.	3⅝x2⅜.	Japanned Case, Bronze Bolt and Turn Knob	$30.90

Key-hole to edge of door, 2½ inches.

Above illustrations half size.

WROUGHT STEEL HORIZONTAL MORTISE DEAD LOCKS.

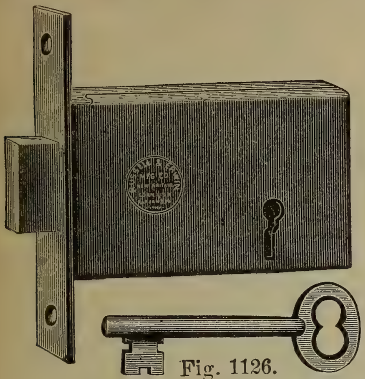


Fig. 1126.

IVORY BLACK CASE.

Nickel-plated, Solid Keys.

Thickness of case	$\frac{1}{2}$ inch
Size of front	$3\frac{5}{8}$x1 inch
Size of case	$1\frac{7}{8}$x$3\frac{1}{4}$ inches

No.	Front and Bolts.	Changes.	Per Doz.
1070.	Lacquered Steel.	4	$5.70
$1073\frac{3}{4}$.	Brass.	24	12.70

Key-hole to front, $2\frac{5}{16}$ inches.

WROUGHT STEEL MORTISE KNOB LATCHES.

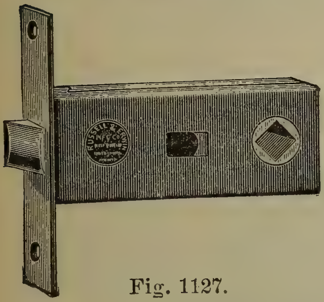


Fig. 1127.

Thickness of case	$\frac{5}{8}$ inch
Size of front	3x$\frac{7}{8}$ inch
" case	$1\frac{1}{4}$x3 inch

No.	Oroide Finish Cases.	Per Doz.
1030.	Oroide Finish Front and Bolt	$1.65

WROUGHT STEEL RIM LOCK SETS.

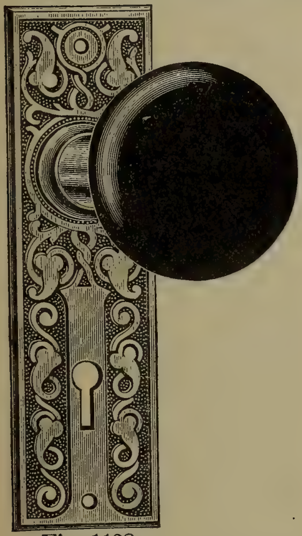


Fig. 1128.

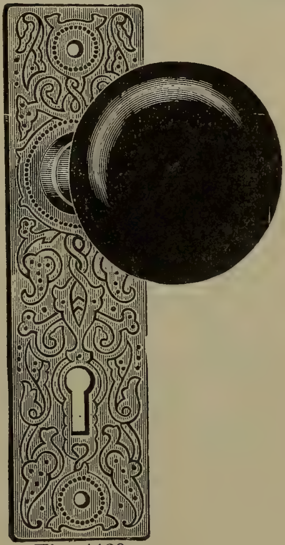


Fig. 1129.

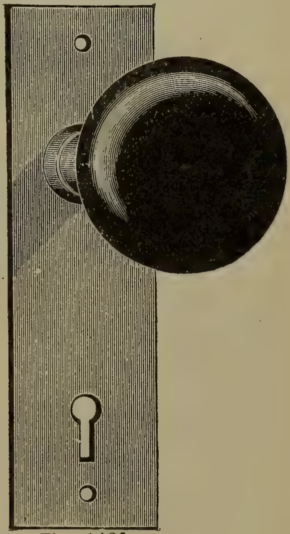


Fig. 1130.

WITH WROUGHT METAL ESCUTCHEONS, JET KNOBS.

Set No.	Lock No.	Page.	Escutcheons.	Per Doz. Sets.
Fig. 1128.	3800–4	304	Bronze Plated.	$10.60
Fig. 1129.	"	"	"	10.60
Fig. 1130.	"	"	Oroide Finish.	9.45

Size of Knobs, $2\frac{1}{4}$ inches.

WROUGHT STEEL KNOB LATCH SETS.

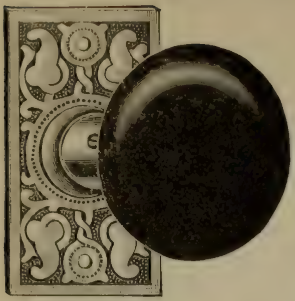


Fig. 1131.
Knob No. 7850.
Rose 7853.

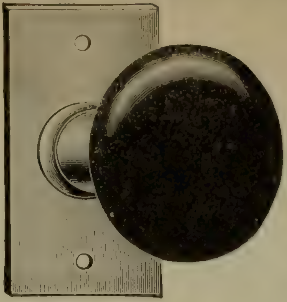


Fig. 1132.
Knob No. 7850.
Rose 7852.

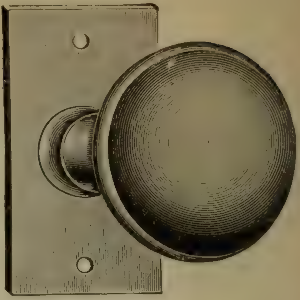


Fig. 1133.
Knob No. 7385.
Rose 7852.

Set No.	Latch No.	Knobs.	Rose.	Rose No.	Per Doz.
Fig. 1131	1030	7850	Bronze-plated	7853	$6 50
Fig. 1132	1030	7850	" "	7852	7.00
Fig. 1133	1030	7385	" "	7852	9.45

Size of Knobs, 2¼ inches. Size of Roses, 3x1½ inches

DOOR KNOBS.

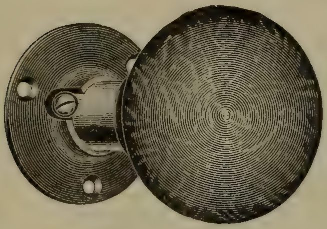


Fig. 1134.

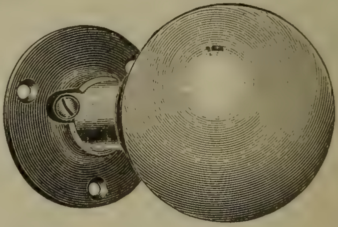


Fig. 1135.

Japanned Shank and Rose.
Plain Spindles.

Nos.			Per Dozen Pairs.	
Rim.	Mortise.	Diam. of Knob.	Without Rose.	With Rose.
		MINERAL.		
400R	400M	2¼ inches, 5/16 Spindle.	$1.95	$1.95
		PORCELAIN.		
300R	300M	2¼ inches, 5/16 Spindle.	$2.15	$2.15

PLATE ESCUTCHEONS.

WROUGHT METAL.

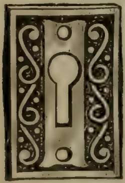


Fig. 1136.

No.	Size, Inches.		Per Dozen.
8525	1¾x1⅛	Kahala Bronze	$0.40

BRONZE-PLATED.

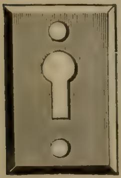


Fig. 1137.

No.	Size, Inches.		Per Dozen.
7225	1¾x1⅛	Wrought Metal	$0.60

CAR DOOR ESCUTCHEONS.

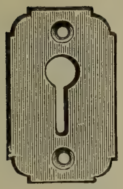


Fig. 1138.

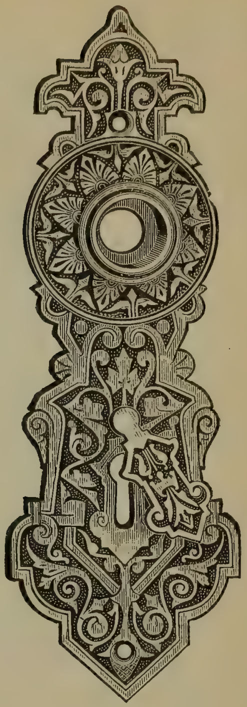


Fig. 1139.

For Brass Keys.	For Steel Keys.	Size Inches.		Per Dozen.
Fig. 1138	Fig. 01138	1¾ x 1⅛	Japanned	$0.20
" 1138	" 01138	1¾ x 1⅛	Brass	.50
	" 1139	7¼ x 2½	Real Bronze	7.00

Fig. 1139 is for Locks Nos. 250 to 255, see Page 318.

LOOSE JOINT CAR DOOR BUTTS.
WITH STEEL WASHERS.

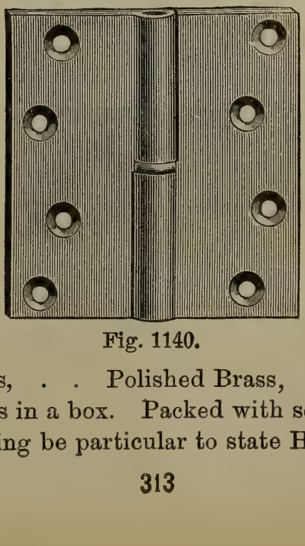


Fig. 1140.

No. 49, 3¼ x 3 inches, . . . Polished Brass, . . . $1.80 per pair.

Six pairs in a box. Packed with screws.

When ordering be particular to state Hand wanted.

CAR DOOR LOCKS.

Illustration Half Size.

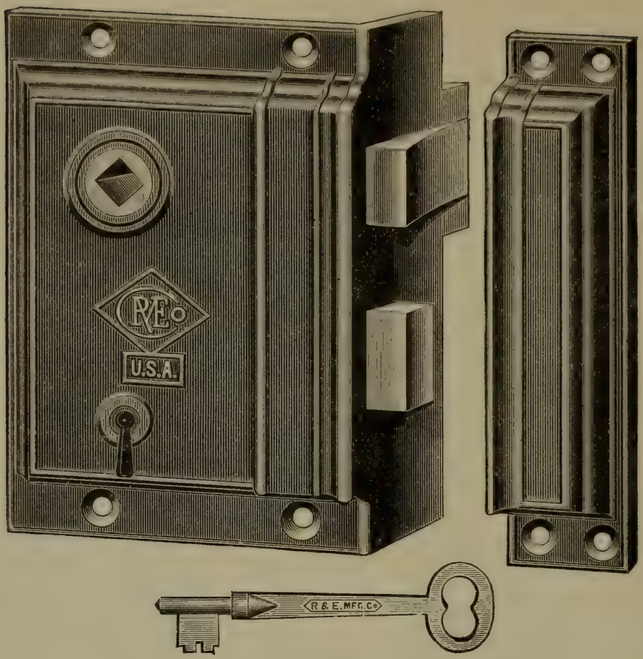


Fig. 1141.

JAPANNED.

Iron Bolts. ⅜ inch Hub.

NARROW PATTERN.

No.	Size, Inches.		Per Doz.
230.	5½x3⅞	1 Tumbler	$22.50
232.	5½x3⅞	3 "	24.50
Centre of Hub to Front .		. . . .	2½ inches
" " Key-hole		. . . .	2¼ inches

WIDE PATTERN.

No.	Size, Inches.		Per Doz.
235.	5½x4¼	1 Tumbler	$22.50
237.	5½x4¼	3 "	24.50
Centre of Hub to Front .		. . . .	3 inches
" " Key-hole		. . . .	2½ inches

These Locks are furnished with either Brass or Steel Keys. When ordering be particular to state Hand, also Key wanted.

For Knobs and Escutcheons see pages 298 and 313.

CAR DOOR LOCKS.

Illustration Half Size.

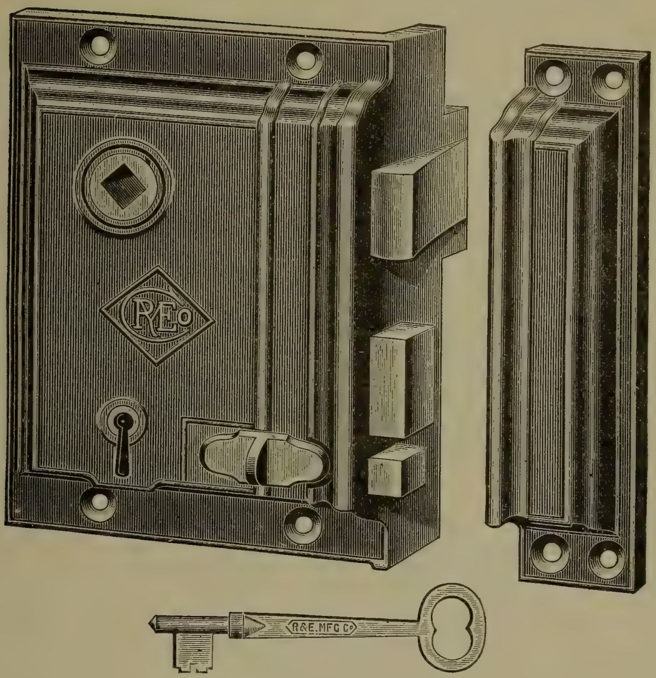


Fig. 1142.

JAPANNED.

Iron Bolts, ⅝-inch Hub, with Slide Bolt.

NARROW PATTERN.

No.	Size, Inches.		Per Doz.
230½	5½ x 3⅞	1 Tumbler	$26.50
232½	5½ x 3⅞	3 "	28.50

Center of Hub to Front . . . . 2½ inches.
" " Key-hole . . . . 2½ "

WIDE PATTERN.

No.	Size, Inches.		Per Doz.
235½	5½ x 4¼	1 Tumbler	$26.50
237½	5½ x 4¼	3 "	28.50

Centre of Hub to Front, 3 Inches.

These Locks are furnished with either Brass or Steel Keys.

When ordering be particular to state Hand, also Key wanted.

For Knobs and Escutcheons see pages 298 and 313.

CAR DOOR LOCK.

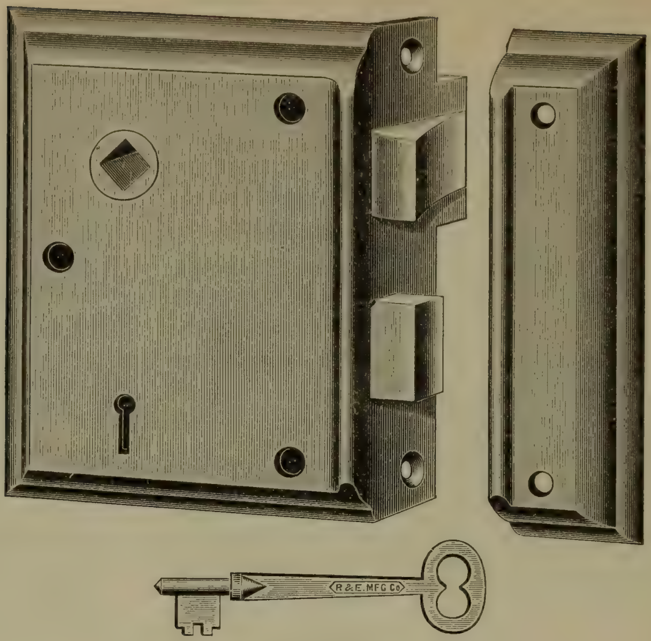


Fig. 1143.

BRASS AND NICKEL-PLATED.

Brass Bolts. $\frac{3}{8}$ inch Hub.

NARROW PATTERN.

No.	Size, Inches.		Brass, Per Doz.	Nickel-plated, Per Doz.
240.	$5\frac{1}{2}$x$3\frac{7}{8}$	1 Tumbler	$42.00	$60.00
242.	$5\frac{1}{2}$x$3\frac{7}{8}$	3 "	47.00	65.00

WIDE PATTERN.

No.	Size, Inches.		Brass, Per Doz.	Nickel-plated, Per Doz
245.	$5\frac{1}{2}$x$4\frac{1}{4}$	1 Tumbler	$42.00	$60.00
247.	$5\frac{1}{2}$x$4\frac{1}{4}$	3 "	47.00	65.00

WITH SLIDE BOLT.

No.	Size, Inches.		Brass, Per Doz.	Nickel-plated, Per Doz.
$245\frac{1}{2}$.	$5\frac{1}{2}$x$4\frac{1}{4}$	1 Tumbler	$55.00	$73.00
$247\frac{1}{2}$.	$5\frac{1}{2}$x$4\frac{1}{4}$	3 "	60.00	78.00

Centre of Hub, Nos. 240, 242, $2\frac{3}{8}$ inches; others 3 inches.
" " to Key-hole, $2\frac{1}{2}$ inches.

These Locks furnished with either Brass or Steel Keys. When ordering be particular to state Hand, also Key wanted.

For Knobs and Escutcheons see pages 298 and 313.

CAR DOOR LOCKS

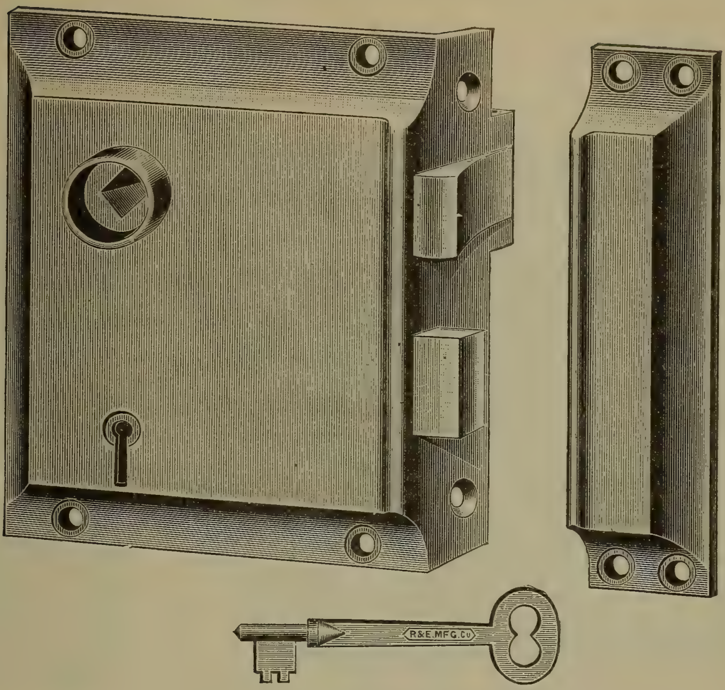


Fig. 1144.

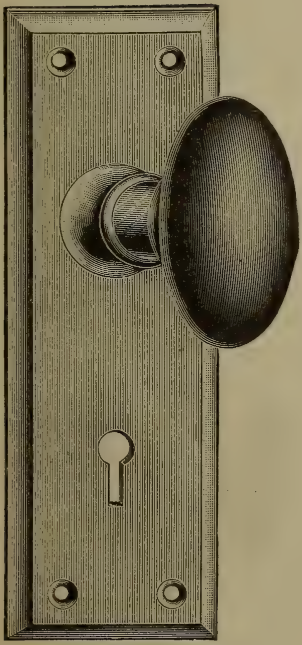


Fig. 1145.

WITH SCREWLESS KNOBS.

Iron Bolts, $\frac{3}{8}$-inch Hub.

Nos. 225 and 227 have Round Brass Knobs.

Nos. 275 and 277 have Oval Brass Knobs.

Centre of Hub to Front . . . . 3 inches.
" " Key-hole . . . . $2\frac{3}{8}$ "

JAPANNED.

Nos.	Size, Inches.	Tumblers.	Per Doz.
225	$5\frac{1}{2}$ x $4\frac{3}{8}$	1	$53.00
227	$5\frac{1}{2}$ x $4\frac{3}{8}$	3	55.00

BRASS.

Brass Bolts, $\frac{3}{8}$-inch Hub.

No.	Size, Inches.	Tumblers	Per Doz.
275	$5\frac{1}{2}$ x $4\frac{3}{8}$	1	$99.00
277	$5\frac{1}{2}$ x $4\frac{3}{8}$	3	123.00

Illustrations are half size.

CAR DOOR LOCKS.

Illustration Half Size.

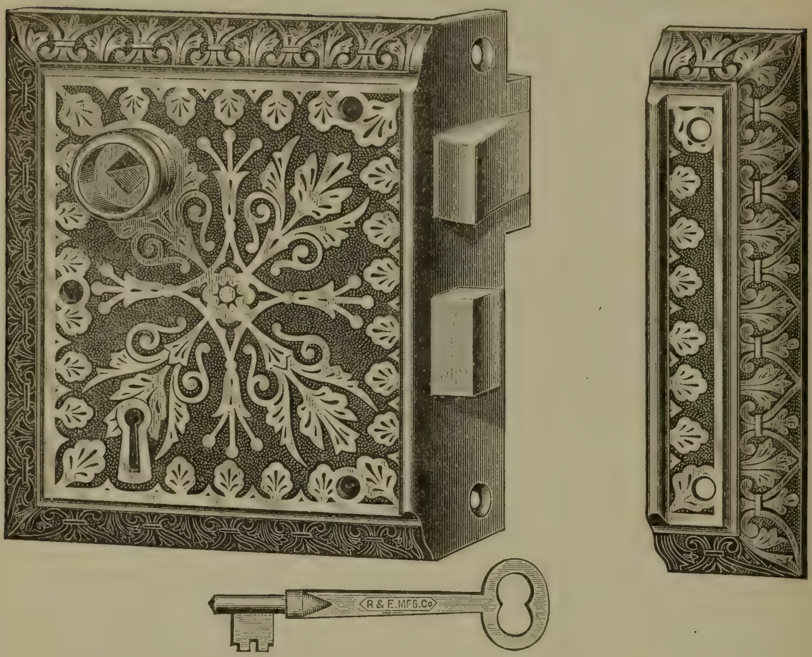


Fig. 1146.

ORNAMENTED REAL BRONZE.

Finish Polished Bronze. ⅜ inch Hub.

No.	Size, Inches.		Per Doz.
250	5½x4¼	Iron Latch Bolt, 1 Tumbler	$72.00
252	5½x4¼	" " " 3 "	96.00
253	5½x4¼	Brass " " 1 "	84.00
255	5½x4¼	" " " 3 "	108.00

Price includes Knobs and Escutcheons. For Knobs and Escutcheons see pages 298 and 313.

Centre of Hub to Front, 3 inches. Centre of Hub to Keyhole, 2½ inches.

Packed complete with Bronze Screws.

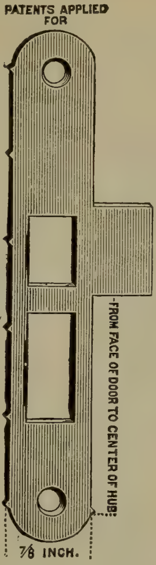
These Locks are furnished with either Brass or Steel Keys.

When ordering be particular to state Hand, also Key wanted.

CENTURY SET, RAPID-MORTISE, ROUND END WROUGHT STEEL LOCKS.—(Nos. 2730 to $02734\frac{3}{4}$, Page 320.)

Fronts.

The mark which distinguishes these locks from the ordinary type is the rounded front and strike.



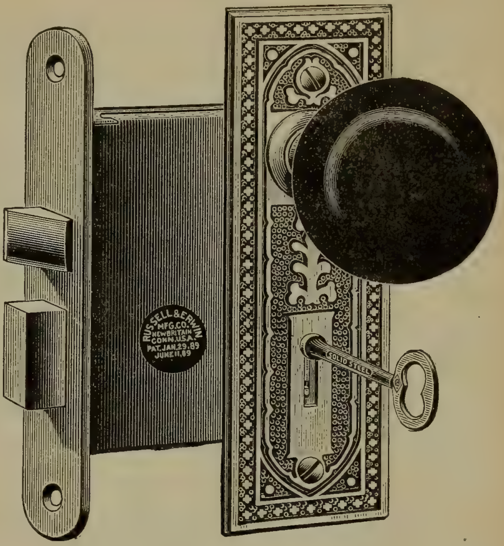
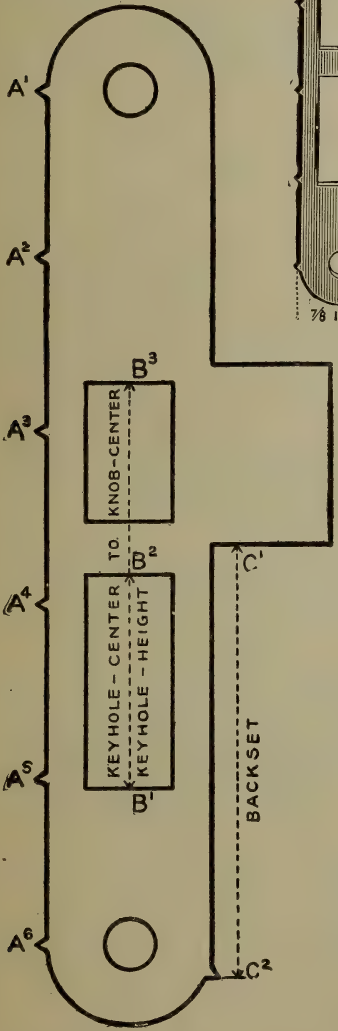

RUSSELL & ERWIN MFG. CO. NEW BRITAIN CONN. U.S.A. PAT. JAN. 29, 89 JUNE 11, 89
SOLID STEEL

Fig. 1147.



Strikes.—Although the rounded ends are distinctive in themselves they are of less note than the *Gauging Strike*, a feature absolutely unique. The projections upon the edge of the strike and the distances of its openings are so planned that the strike serves as a gauge to mark the centres for boring mortises and to determine the positions of knob and keyhole. If the directions packed with each lock be carefully followed the merest novice in carpentry can fit these locks quickly and exactly.

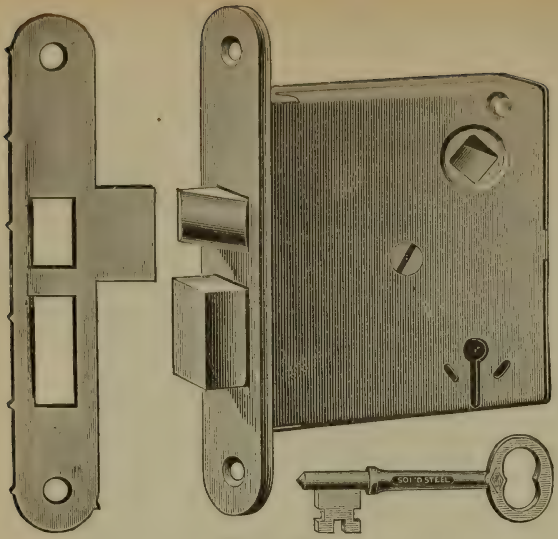
To Fit Lock.—Having marked the centre of the edge of the door, use the prongs on the back of the strike (A-1 to A-6) to locate centres for boring mortise. Use a $\frac{7}{8}$-inch bit. The holes at the ends should be bored to a depth of $\frac{1}{16}$ inch; the others, $3\frac{1}{4}$ inches deep.

To Find Keyhole Centre.—Square from centre of lowest boring in edge of door to a point $2\frac{5}{16}$ inches back from edge of door, which point may be gauged by the distance (C-1 to C-2) from lower edge of lip of strike to prong near its end. If the door is beveled, allowance must be made for the bevel in finding this point. Measure up from this point $1\frac{1}{8}$ inches (the length of the opening of the lower hole in the strike, B-1 to B-2) and so find the centre for the key pin. Use a $\frac{3}{8}$-inch bit.

To Find Centre for Knob.—The centre for the knob will be found at a point $2\frac{1}{8}$ inches above the centre already found for the key pin, which may be gauged by the distance (B-1 to B-3) from the bottom of the lower hole in the strike to the top of the upper hole.

To Fit Strike.—The strike, being of the same size as the front of the lock, is fitted in the same manner as the lock, all the holes being bored to the depth of $\frac{1}{16}$ inch with a $\frac{7}{8}$-inch bit.

Price, Fig. 1147, Locks, Knobs and Escutcheons, per dozen, $10.60.



Fig, 1148.

RAPID-MORTISE

WROUGHT STEEL ROUND END

KNOB LOCKS.

Easy Spring.

Illustration Half Size.

PATENT APPLIED FOR.

Nos. 2730 to 2734¾.

REVERSIBLE LATCH BOLT, NICKEL-PLATED SOLID KEYS.

Thickness of Case, ½ inch; Size of Front, 5½x⅞ inch.

OROIDE FINISHED CASES.

No.	Size, inches.		Key	Tumblers.	Changes.	Per dozen.
2730	3½x3	Oroide Finish, Steel Front “ “ Iron Bolts	Iron	1	4	$4.10
2731	3½x3	“ “ Steel Front “ “ Iron Bolts	Steel	1	12	4.90
2734	3½x3	Polished Brass Front and Bolts	“	1	12	7.14
2734¾	3½x3	“ “ “ “ “	“	3	24	12.20

Half dozen in a box. Packed complete with screws and escutcheons.

BRONZE-PLATED CASES, POLISHED FRONTS.

No.	Size, inches.		Key.	Tumblers.	Changes.	Per dozen.
02731	3½x3	Bronze-Plated Steel Front “ “ Iron Bolts	Steel	1	12	$
02734	3½x3	Bronze Front and Bolts	“	1	12	
02734¾	3½x3	“ “ “ “	“	3	24	

Half dozen in a box. Packed with screws.

Centre of hub to front, $2\frac{5}{16}$ inches. Centre of hub to keyhole, 2⅛ inches.

To change the hand, take off the cap and turn over the latch.

Any combined Roses and Escutcheons for 3½ inch Mortise Locks may be used with these locks.

MASTER-KEYED LOCKS.

No.	Size, inches.	Front and Bolts.	Key Class No.	Tumblers.	Changes.	Per dozen.
2734¾M	3½x3	Brass.	Steel 417½	3	25	$
02734¾M	3½x3	Bronze.	“ 417½	3	25	

They can be furnished in two sets of 25 (or less) each, with steel master-key to fit each set of 25.

COPYING PRESSES, RAILROAD PATTERNS.

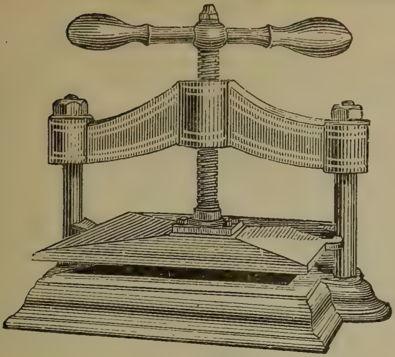


Fig. 1149.

FIG. 1149. SHORT ARCH.

Receives a book 14x18 inches.

Finished in Black Japan. No Ornamentation. Price, $15.00.

Finished in Black Japan. Bronze Ornamentation. Price, $16.50.

Finished in Carmine and Black Japan. With Gold Leaf and Bronze Ornamentation. Nickel-plated Posts. Price, $20.00.

FIG. 1150. SHORT ARCH.

Receives a book 16x20 inches.

Finished in Black Japan. No Ornamentation. Price, $18.00.

Finished in Black Japan. Bronze Ornamentation. Price, $20.00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Nickel-plated Posts. Price, $24.00.

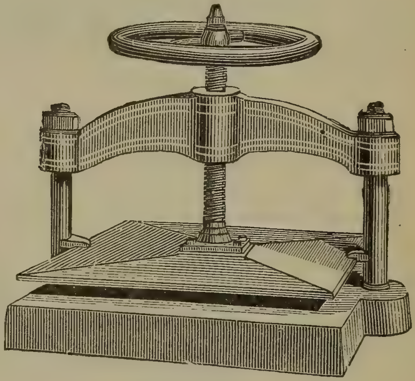


Fig. 1150

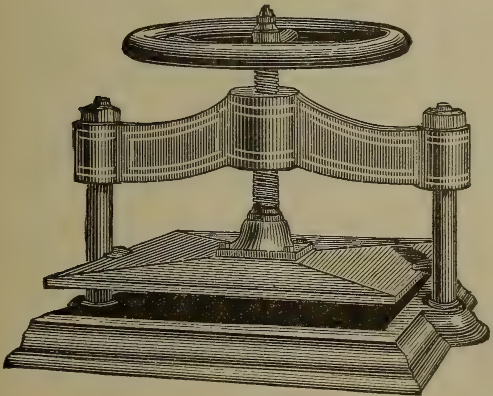


Fig. 1151.

FIG. 1151. SHORT ARCH.

Receives a book 18x23 inches.

Finished in Black Japan. No Ornamentation. Price, $26.00.

Finished in Black Japan. Bronze Ornamentation. Price, $28.00

Finished in Carmine and Black Japan, Gold Leaf and Bronze Ornamentation. Nickel-plated. Price, $32 00.

FIG. 1152.

Receives a book 15x20 inches.

Finished in Black Japan. No Ornamentation. Price, $18.00.

Finished in Black Japan. Bronze Ornamentation. Price, $20.00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Price, $22.00

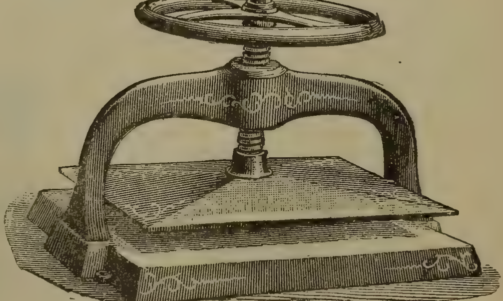


Fig. 1152.

COPYING PRESSES, RAILROAD PATTERNS.

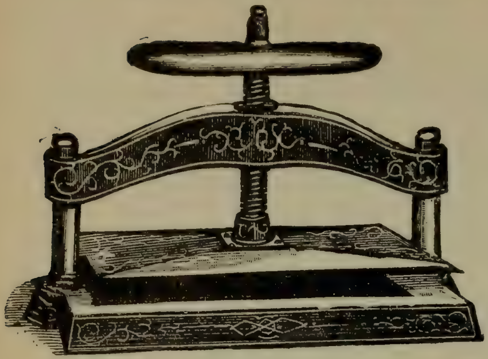


Fig. 1153.

FIG. 1153.

Receives a Book 15x20 Inches.

Finished in Black Japan. Bronze Ornamentation. Nickel-plated Posts.

Price, $25.00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Nickel-plated Posts and Cap.

Price, $27.00.

FIG. 1154.

Receives a Book 17x22 Inches.

Finished in Black Japan. Bronze Ornamentation. Nickel-plated Posts.

Price, $33.00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Nickel-plated Posts and Cap.

Price, $36.00.

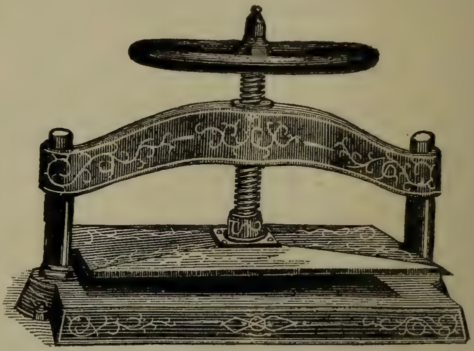


Fig. 1154.

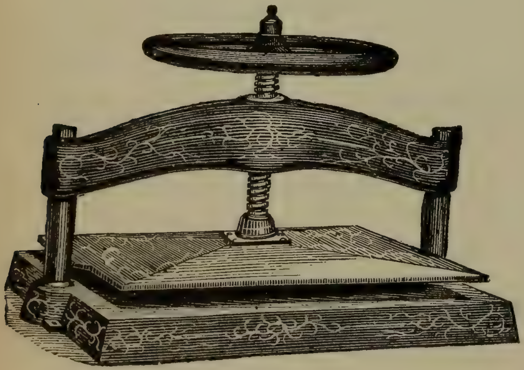


Fig. 1155.

FIG. 1155.

Receives a Book 22x24 Inches.

Finished in Black Japan. Bronze Ornamentation Nickel-plated Posts.

Price, $48.00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Nickel-plated Posts and Cap.

Price, $51.00.

FIG. 1156.

Receives a Book 20x27½ Inches.

Finished in Black Japan. Bronze Ornamentation. Nickel-plated Posts.

Price, $50 00.

Finished in Carmine and Black Japan. Gold Leaf and Bronze Ornamentation. Nickel-plated Posts and Cap.

Price, $53.00.

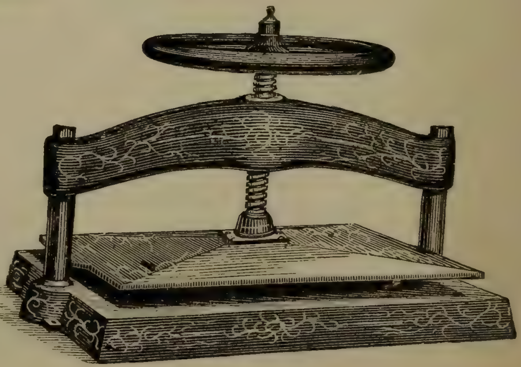


Fig. 1156.

COPYING PRESSES, PHOENIX PATTERNS.

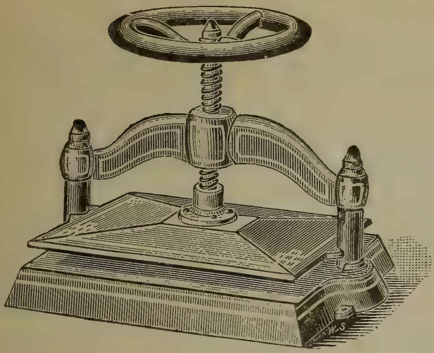


Fig. 1157.

Finished in Black Japan.
No Ornamentation.

No.				
No. 16	receives a book	10x12 in.,	price,	$5.25
" 17	"	10x15 in.,	"	6.00
" 18	"	11x16 in.,	"	9.00
" 19	"	12x18 in.,	"	11.75
" 20	"	15x20 in.,	"	18.00
" 20½	"	16x20 in.,	"	23.00
" 21	"	18x22 in.,	"	25.00
" 21½	"	20x24 in.,	"	28.00
" 22	"	22x24 in.,	"	30.00
" 23	"	20x27 in.,	"	32.00
" 23½	"	22x30 in.,	"	56.00

COPY PRESS STANDS.

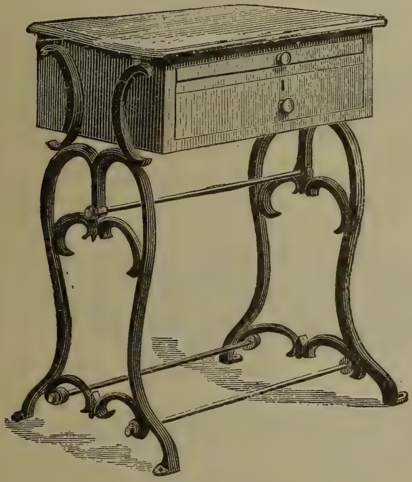


Fig. 1158.

Fig. 1158.

Finished in Oil. One Drawer and Slide for Book.

Dimensions of top . . .	17x24 inches
Drawer, inside . . .	14x16x2½ "
No. 1, Walnut, price . . .	$8.00
No. 10, Oak, " . . .	7.50

Finished in Oil, with Slide for Book, but without Drawer.

Dimensions of top . . .	17x24 inches
No. 0, Walnut, price . . .	$5.50
No. 00, Oak, " . . .	5.25

RAILROAD COPY PRESS STAND.

Fig. 1159.

Very Heavy.
Finished in Oil or Varnished.
One Drawer and Slide for Book.

Dimensions of top .	24x37 inches
Drawer, inside .	19x26x2½ "
No. 90, Oak, price . .	$14.00

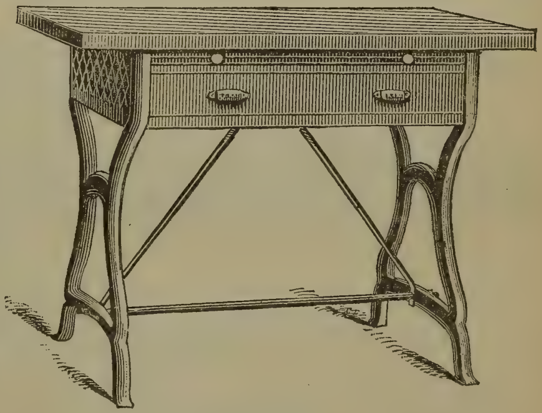


Fig. 1159.

WATER TUBS.

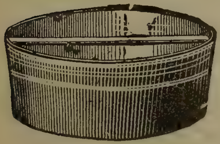


Fig. 1160.

Finished in Black Japan, Bronze Striping.

Plain, per dozen	$2.75
Porcelain lined, per dozen	6.50

DIXON'S PENCILS FOR SPECIAL PURPOSES.

With Large Diameter Leads.

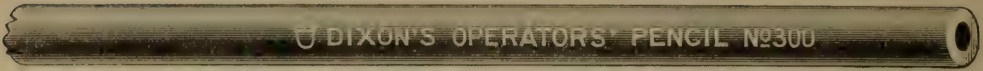


Fig. 1161.

300. Dixon's "Operator" Satin Finish, gold stamp, rich black lead, per gross, $4.75.

CAR INSPECTOR'S PENCILS.

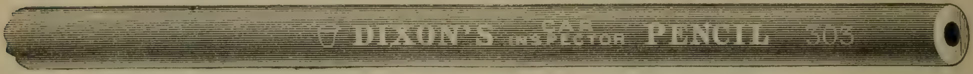


Fig. 1162.

No. 303. Dixon's Car Inspector Pencil, Satin Finish, gold stamp. Dixon's Car Inspector Pencil fully meets the various requirements of the committee appointed by the Master Car Builders' Association. The pencil makes a clear, black mark, which cannot easily be erased, is not hardened or spoiled by age. The leads are tough and strong, readily sharpened, but not easily broken. The marks do not smudge or run, and will never fade by exposure to light. There is no pencil made which is its equal for the work intended. Per gross, $4.75.

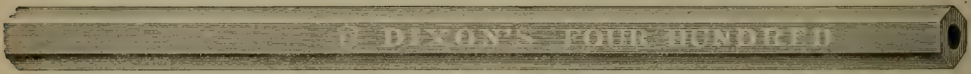


Fig. 1163.

No. 400. Fine Cedar Finish, deep rich black lead. Per gross, $7.75.

LUMBER PENCILS.

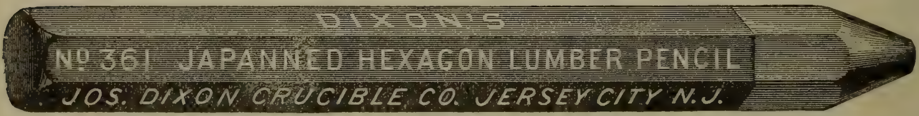

DIXON'S
No. 361 JAPANNED HEXAGON LUMBER PENCIL
JOS. DIXON CRUCIBLE CO. JERSEY CITY N.J.

Fig. 1164.

No. 361. Dixon's Lumber Pencil, 4¾ in. long, ½ in. in diameter, hexagon shape, japanned finish, ½ gross in a box, three grades—hard, regular and soft. Per gross, $

METAL WORKERS' CRAYONS.

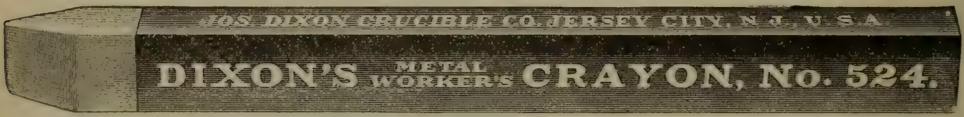

JOS. DIXON CRUCIBLE CO. JERSEY CITY, N. J., U. S. A.
DIXON'S METAL WORKER'S CRAYON, No. 524.

Fig. 1165.

524. Sawed out of solid soapstone, flat shape, chisel point. Packed in ½ gross boxes. Per gross, $3 25.

DIXON'S ARTISTS' PENCILS.

Packed in handsome white watered paper, gilt-trimmed boxes, with black and gold labels. One dozen in a box, three dozen in a carton.

They are made in hexagon shape only, beautifully finished in the natural color of the cedar wood, and are in eleven grades of leads, as follows, viz.:

Nos.	Grade Stamps.	Nos.	Grade Stamps.
210.	VVS—Very, very soft.	216.	MH—Medium hard.
211.	VS—Very soft.	217.	H—Hard.
212.	S—Soft.	218.	VH—Very hard.
213.	SM—Soft medium.	219.	VVH—Very, very hard.
214.	MB—Medium black.	219½.	VVVH—Very, very, very hard.
215.	M—Medium.		

These leads are extra fine and perfectly graded. The hard grades are perfect for architects, draughtsmen and engineers. Per gross, $9.00.

DIXON'S FINE OFFICE PENCILS.

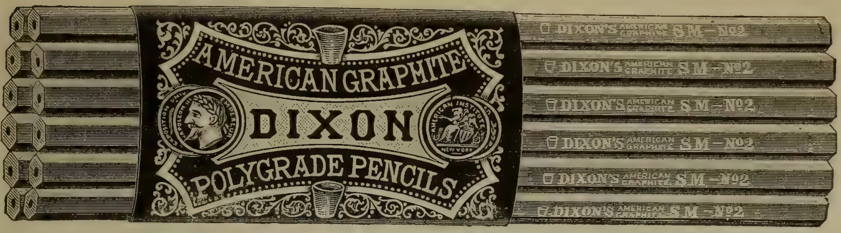


Fig. 1166.

ROUND SHAPE, FINISHED IN THE NATURAL COLOR OF THE CEDAR WOOD.

Grade Stamps	S	S M	M B	M	M H	H	V H
Trade Numbers	141	142	142½	143	143½	144	145

ROUND SHAPE, "SATIN FINISH."

Grade Stamps	S	S B	S M	M B	M	M H	H	V H
Trade Numbers	151	151½	152	152½	153	153½	154	155

ROUND SHAPE, FINE MAROON FINISH.

Grade Stamps	S M	M
Trade Numbers	111	112

ROUND SHAPE, GLOSSY BLACK FINISH.

Grade Stamps	S M	M
Trade Numbers	106	107

All the above $5.00 per gross.

HEXAGON SHAPE, FINISHED IN THE NATURAL COLOR OF THE CEDAR WOOD.

Grade Stamps	S	S M	M B	M	M H	H	V H
Trade Numbers	122	123	123½	124	124½	125	126

HEXAGON SHAPE, "SATIN FINISH."

Grade Stamps	S	S B	S M	M B	M	M H	H	V H
Trade Numbers	166	166½	167	167½	168	168½	169	170

HEXAGON SHAPE, FINE MAROON FINISH.

Grade Stamps	S M	M
Trade Numbers	116	117

All the above Hexagon shape $6.75 per gross.

The above four styles of finish of Round Gilt, and three of Hexagon Gilt, comprise the assortment of Dixon's American Graphite Pencils, of the very finest style and quality, known to the trade as "fine goods.' They are put up in Dixon's patent dozen package (see above cut), and are packed in ½ gross boxes.

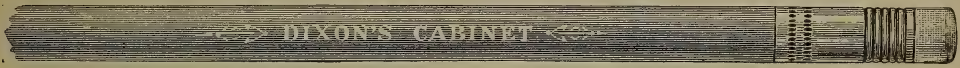


Fig. 1167.

Cut shows full diameter, but reduced length.

These Pencils are made in Round shape and Hexagon shape, stamped in Gold, with No. 2 and No. 3 leads of high grade. They are fitted with Nickel Tips, having a screw-thread and carrying an Erasive Rubber of superior quality. They are finished in Black, Satin, Cedar and Maroon. Round, per gross, $3.25; Hexagon, per gross, $3.75.

Fig. 1168.

ROUND SHAPE, GOLD STAMP, "DIXON'S BEST," HIGHLY FINISHED.

349.	7 inch, red lead	Per gross, $8.00
350.	7 " blue "	

Packed ½ gross in box, with Dixon's patent dozen package.

DIXON'S FELT ERASIVE RUBBERS.

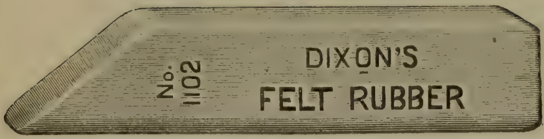


Fig. 1169. Full Size.

12 to 120 in lb. Per lb., $1.00.

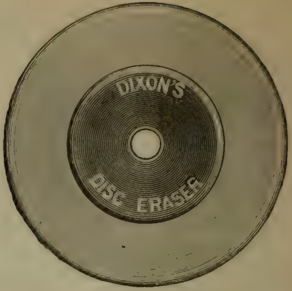


Fig. 1170. Full Size.

1 doz. on a card, 6 cards in a box.
Per gross, $5.00.

DIXON'S STANDARD GRAPHITE GREASE.

This is recommended for gears, for loose fitting journals and bearings, or wherever the conditions are such that an ordinarily stiff grease can be introduced. This grease is not intended for use in an oil cup, but will feed nicely through a tallow cup.

WATER-PROOF GRAPHITE GREASE.

For gears exposed to the action of water, for chains, cables, and wire ropes used in mines, quarries, etc., which are exposed to water, and for all other uses calling for a lubricant not affected by even running water. For railroad switches, interlockings, etc., it is without an equal.

PRICES OF STANDARD AND WATER-PROOF GREASE.

10 pound package	$1.50	50 pound package	$6.50
25 "	3.50	100 "	12.00

Barrels of 400 lbs., 10 cents per lb.

GRAPHITED WOOD GREASE.

FOR ELECTRIC CARS.

It does not cake in the gear cases, and it keeps the gears constantly and thoroughly lubricated, and at the same time prevents all drippings from the gear cases.

PRICE.

Barrels, about 300 lbs.	6 cents per lb.
Five barrel lots	5 " "

GRAPHITE CURVE GREASE.

This grease is made to meet the demand of trolley car companies for a durable lubricant for curves and switches at a low price. Flake graphite is used, and the affinity for metal possessed by graphite makes it superior to any other form of lubricant. It is furnished in barrels of 400 to 500 pounds. Prices on application.

DIXON'S EVERLASTING GRAPHITE AXLE GREASE.

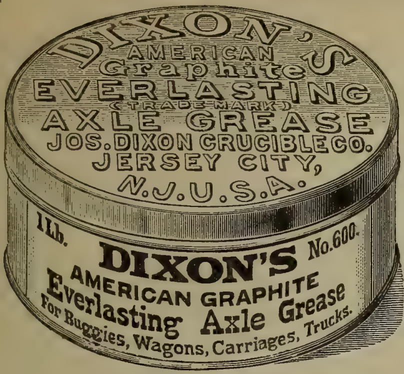


Fig. 1171.

600	1 lb. box	$0.15 each.
601	2 "	0 25 "
603	10 lb. pail	1.20 "
624	25 lb. kegs	2.75 "
625	50 "	5.00 "
626	100 "	9.00 "
627	bbls. ab't 350 lbs., .08½ per lb.	

DIXON'S BELT DRESSING.

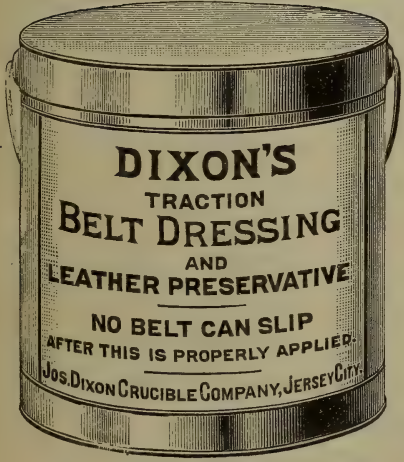

DIXON'S
TRACTION
BELT DRESSING
AND
LEATHER PRESERVATIVE
NO BELT CAN SLIP
AFTER THIS IS PROPERLY APPLIED.
JOS. DIXON CRUCIBLE COMPANY, JERSEY CITY.

Fig. 1172.

It absolutely prevents a belt from slipping, thoroughly preserves the leather, and protects the elasticity of the belt.

No.		Per lb.
665	10 lb. pail	30 cts.
666	25 "	25 "
667	50 "	22 "
668	100 lb. keg	20 "
669	Bbls., about 375 lb	18 "

DIXON'S SOLID BELT DRESSING.

Fig. 1173.

Made especially for those who prefer a solid dressing to the soft or paste dressing. Is put up in one pound bars in paper boxes. Twenty-five one pound bars in a case.

Price per case, $6.00

DIXON'S GRAPHITE PIPE JOINT COMPOUND

Fig. 1174.

Far better and cheaper than Red Lead.

No.		Per lb.	No.		Per lb.
693	1 lb. package	20 cents.	696	25 lb. package	14 cents.
694	5 "	18 "	697	50 "	13½ "
695	10 "	15 "	698	100 "	13 "

DIXON'S FOUNDERS' PERFECT CORE WASH.

MAKES SOUND, SMOOTH AND PERFECT CASTINGS.

It makes a hard skin or veneer on the mold, which will not rub off nor run before the hot metal.

Intended for heavy as well as light work. Specially useful for steel castings.

Boxes of 25, 50 and 100 lbs., ...	10 cents per lb.
Barrels of 300 lbs., ...	8 " " "

DIXON'S PLUMBAGO FACINGS, CALLED INDIA SILVER LEAD.

How to Order.

One kind works with dry sand and is used as a wash. Another works with green sand and through a shake-bag. Still another with green sand, and is put on by the brush. Some facings require, for perfect lines, a little dusting of powdered charcoal Some brands will "slick"—others not. So if the foundry superintendent will specify the kind of work he uses the facing on, his order can be more perfectly filled.

LEADING KINDS AND PRICES.

Trade No.	Description.	Use.	Price per lb. in barrel lots.
660.	Plumbago Facing . .	Common Work	$0.03½
659.	German Bohemian Lead,	Flat Molding . . .	.04
604.	Ex Ex Plumbago Facing,	Stove Plate, Printing and Copying Press,	.06
618.	India Silver Lead . .	Light Casting	.06
619.	India Silver Lead . .	Ordinary Job Work . . .	.06
621.	X X Plumbago . .	Heavy Casting and Steel Casting .	.10

LAMP BLACK.

STAR GERMANTOWN.

			Assorted.	Assorted.	
1s,	½s,	¼s,	1s, ½s and ¼s,	½s and ¼s,	⅛s,
$0.10	.12	.14	.12	.13	.18 per lb.

Put up in card-board boxes and paper bags.

NO. 1. VULCAN.

In bulk, ... Per pound, $0 08½

Packages extra at cost.

DIXON'S AMERICAN FLAKE GRAPHITE, PERFECT LUBRICANT.

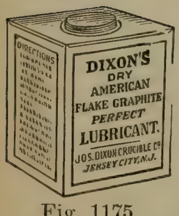


Fig. 1175.

No. 630.	¼	lb. paper cans, . . .	$0.10 each.
No. 631.	½	" " " . . .	.15 "
No. 632.	1	" " " . . .	.20 "
No 633.	5	" tin cans, screw top, . .	.85 "
No. 634.	10	" " " " " . .	1.60 "
No. 644.	25	" boxes, . . .	.14 per lb
No. 645.	50	" "	.13 "
No. 646.	100	" kegs, ...	.12 "
No. 647.	350	" barrels, . . .	.10 "

These are the trade numbers of our regular Flake. If finely pulverized Graphite is required, it should be specified, in addition to the trade numbers, as No. 2.

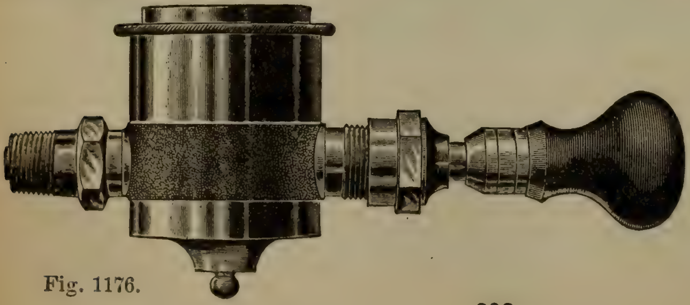


Fig. 1176.

For the introduction of pure Flake Graphite into the cylinders of Stationary Engines, we know of no better device than this Oil Pump here illustrated.

DIXON'S SILLICA-GRAPHITE PAINT.

For Metal or Wood-work, Roofs, Bridges, Telegraph and Trolley Poles, Smokestacks, Boiler Fronts and Iron Construction Work of Buildings.

PACKAGES AND PRICES.

10	lbs. in Tin Pail, Thick, Ground in Oil	15 cents per lb.
25	“ “ “ “ “	14 “ “
50	“ Keg, “ “ “	13½ “ “
100	“ “ “ “ “	13 “ “
450	“ Barrel, “ “ “	12 “ “
5	gals. Keg, Thinned, Ready Mixed	$1.30 per gal.
10	“ “ “	1.25 “
25	“ “ “	1.20 “
50	“ “ “	1.15 “

A gallon ready mixed for the brush will cover about 600 square feet, one coat, on metal surfaces in good condition. For very high heat, and for surfaces exposed to the constant action of water, we recommend Dixon's Ready-Mixed Smoke stack Paint.

ASPHALTUM LIQUID PAINTS IN ALL COLORS.

Colors, Nos. 7, 9, 15, 16, 17, 21, 41, Barrels	Per gallon, $0.75
“ “ 7 9, 15, 16, 17, 21, 41, Half Barrels	“ .80
“ “ 7 9, 15, 16, 17, 21, 41, in Pails	“ .85
“ No. 31, Bright Red, and No. 59, Purple, Barrels	“ .85
“ “ 31, “ “ 59, “ Half Barrels	“ .90
“ “ 31, “ “ 59, “ in Pails	“ .95
“ “ 2 and 6, Blue and Green, Barrels	“ 1.30
“ “ 2 and 6, “ Half Barrels	“ 1.35
“ “ 2 and 6, “ in Pails	“ 1.40
“ “ 76, Outside White, Barrels	“ 1.25
“ “ 76 “ Half Barrels	“ 1.30
“ “ 76, “ in Pails	“ 1.35

All other colors (unless otherwise mentioned), including No. 76 inside White, at one uniform price, bbls., $1.10; half bls., $1.15; pails, $1.20 per gallon.

We can recommend these paints to give entire satisfaction and are A1 in every respect. Samples sent on application.

WHITE LEAD.

In 25, 50 and 100 lb. kegs	Per lb., $

Market prices.

RAILROAD VARNISHES.

Car Inside Finishing, per gallon	$	Locomotive Finishing, per gallon	$
“ Outside “	“	“ Rubbing, “	
“ Rubbing “	“	“ “Ebonite,” “	3.00

“NONPAREIL” JAPAN.

For a Dryer and Gold Size, put up in 1 gallon cans	Per gallon, $2.25

This is one-third stronger than any other Dryer on the market.

RAILWAY COACH JAPAN.

Put up in 1 gallon cans	Per gallon, $2.25

PATENT WELDLESS COLD-DRAWN STEEL TUBES.

Price per Foot in Cents.

Outside Diameter, Inches.	Thickness of Walls													
	3-16 or 18 or 20 W. G.	1-16 or 16 W. G.	15 W. G.	5-64 or 14 W G.	3-32 or 13 W G.	12 W. G.	1 8 or 11 W. G.	10 W. G.	3 16	1-4	5-16	3-8	7-16	1 2
$\frac{3}{8}$	30	30	31	32	33									
$\frac{7}{16}$ or $\frac{1}{2}$	30	30	31	32	33	35	37							
$\frac{9}{16}$ or $\frac{5}{8}$	32	32	33	34	36	38	40	42	43					
$\frac{11}{16}$ or $\frac{3}{4}$	34	34	36	38	39	41	43	45	47	55				
$\frac{7}{8}$	36	36	38	40	42	44	47	50	54	68				
1	38	38	42	44	46	50	53	58	64	75				
$1\frac{1}{8}$	41	41	44	47	50	54	58	66	73	87	98			
$1\frac{1}{4}$	44	44	47	50	54	59	64	73	81	98	109	121		
$1\frac{3}{8}$	47	47	51	54	58	65	70	80	90	108	121	137	148	
$1\frac{1}{2}$	50	50	54	58	62	72	76	84	100	122	136	154	170	181
$1\frac{5}{8}$	53	53	57	61	66	76	80	90	107	130	147	167	185	200
$1\frac{3}{4}$	55	55	60	65	69	79	84	96	114	139	157	180	200	216
$1\frac{7}{8}$		58	63	68	73	83	89	101	120	148	169	193	214	233
2		61	66	72	77	87	93	108	125	156	180	206	228	250
$2\frac{1}{8}$			72	77	81	92	99	114	133	166	194	220	242	268
$2\frac{1}{4}$			77	81	85	96	104	122	141	176	208	233	255	285
$2\frac{3}{8}$				85	90	107	111	128	148	187	221	248	273	303
$2\frac{1}{2}$				89	94	112	118	131	154	198	233	262	290	320
$2\frac{5}{8}$				94	98	118	123	138	163	207	245	277	308	338
$2\frac{3}{4}$				98	102	120	127	144	171	216	256	291	325	355
3					110	130	137	156	187	233	278	319	356	390
$3\frac{1}{8}$					117	138	144	162	196	242	290	333	371	407
$3\frac{1}{4}$					124	145	150	168	204	250	301	347	386	423
$3\frac{3}{8}$					130	150	156	174	212	259	313	361	401	441
$3\frac{1}{2}$					135	155	161	180	220	267	325	375	416	458
$3\frac{3}{4}$							174	198	237	290	350	403	446	492
4							189	214	255	312	375	431	478	527

The above prices are for outside diameters. The bore of Tube can be ascertained by deducting thickness of walls from the given outside diameter. These Tubes are round, true to size, and smooth inside and out. The maximum length is 16 feet for sizes up to 3 inches outside diameter, and Tubes can be furnished of any length desired within that figure and without charge for cutting, except on Tubes shorter than 2 feet. In Tubes up to $1\frac{1}{2}$ inch outside diameter we can furnish 22 gauge at 2 cents per foot; over 20 gauge and 24 gauge at 6 cents per foot; over 20 gauge on order. Sizes not in stock it takes ordinarily about 90 days for order and importation.

THE BURNET COMPANY, NEW YORK.

SEAMLESS COPPER TUBING.

OUTSIDE DIAMETER.

Stubs' Gauge the Standard. Prices in cents per pound.

O.G.	N.G.	3/16	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1	1¼	1½	1¾	2	2¼
4 to 8	3 to 6										26	25	23	22	21	20	20
9	7									27	26	25	23	22	21	20	20
10	8						31	29	28	27	26	25	23	22	21	20	20
11	9						31	29	28	27	26	25	23	22	21	20	20
12	10				35	33	31	29	28	27	26	25	23	22	21	20	20
13	11				35	33	31	29	28	27	26	25	23	22	21	21	21
14	12			39	35	33	31	29	28	27	26	25	23	22	21	21	21
15	13			40	36	34	31	30	29	28	27	26	24	23	22	22	22
16	14			41	37	35	32	31	30	29	28	27	24	23	23	23	23
17	15			42	38	36	33	32	31	30	29	28	25	24	24	24	24
18	16	79	59	44	40	37	34	33	32	30	29	28	26	25	25	25	25
19	17	84	60	45	41	38	35	34	33	32	31	30	28	27	26	26	26
20	18-19	89	62	47	42	39	37	36	35	34	33	32	30	29	28	28	28
21	20	94	64	49	44	41	39	38	37	36	35	34	33	32	30	30	30
22	21	99	69	54	46	42	40	39	38	37	36	35	35	34	32	32	33
23	22	104	74	59	48	44	42	41	40	39	38	37	37	37	35	35	36
	23	114	79	64	51	46	44	43	42	41	39	38	38	39	39	39	40
[illegible]	24	129	84	69	54	49	47	45	44	43	42	41	42	43			

OUTSIDE DIAMETER.

	N.G.	2½	2¾	3	3¼	3½	3¾	4	4¼	4½	4¾	5	5¼	5½	5¾	6	6¼	6½	6¾	7	7¼	7½	7¾
4 to 8	3 to 6	20	20	20	20	20	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	35	37
9	7	20	20	20	20	20	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	35	37
10	8	20	20	20	20	20	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	35	37
11	9	20	20	20	20	20	20	21	21	22	23	24	25	26	27	28	29	30	31	32	33	35	37
12	10	20	20	20	20	20	20	22	22	23	24	25	26	27	28	29	30	31	32	33	34	36	38
13	11	21	21	21	21	21	22	23	23	24	25	26	27	28	29	30	31	32	33	34	35	37	39
14	12	21	21	21	21	22	23	24	24	25	26	27	28	29	30	31	32	33	34	35	36	38	40
15	13	22	22	22	22	23	24	25	25	26	27	28	29	30	31	32	33	34	35	36	37	39	41
16	14	23	23	23	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	41	43
17	15	24	24	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	43	45
18	16	25	26	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	45	47
19	17	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	47	49
20	18-19	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	49	51
21	20	30	31	32	33	34	35	36	37	38	39	40											
22	21	34	34	35	36	37	38	39	40	41													
23	22	37	37	38	39	40	41	42															
24	23	40																					

IRON PIPE SIZES.

Sizes, inches .	1/8	1/4	3/8	1/2	3/4	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Price, per pound,	34	30	27	25	19	19	19	19	19	19	19	21	21	23	25	29

For price of Brass Tubing deduct 3 cents per pound from above lists.

NOTE.—For diameters of the fractional parts of an inch where no price is given, take the column to the left of where such size would appear if designated.

In ordering, be careful to state whether Tube is wanted O.G. (which is Stubs'), or N.G. (which is Brown & Sharpe's).

The above Tubing is in 12-foot lengths.

ADVANCE PRICES OF COPPER TUBING ON PAGE 331.
5 CENTS PER LB.

FOR BRASS TUBING ADVANCE PRICES 2 CENTS PER LB.

SEAMLESS BRASS TUBING. FOR PLUMBING.

This Tubing is made in 11 or 12 feet lengths, *not* threaded.

Outside diameter, in.	5/8	3/4	7/8	1	1 1/4	1 1/2
Thickness by Stubs' Gauge No. .	15	15	15	14	13	13
Price per lb., cents	.26	.25	.24	.22	.20	.19

Tinning, three cents per pound extra, net.

BRAZED BRASS TUBING.

BROWN & SHARPE'S GAUGE THE STANDARD. OUTSIDE DIAMETER.

Plain Round Tube 3/4 in. and up to 2 in., to No. 19 Gauge, inclusive, per lb. . . . . .
" " 5/8 " " 3/4 " " " " 36
" " 1/2 " " 5/8 " " " " 38
" " 3/8 " " 1/2 " " " " 41
" " 5/16 " " 3/8 " " " " 48
" " 1/4 " " 5/16 " " " " 65
" " 3/16 " " 1/4 " " " " 1.00
" " 1/8 " " 3/16 " " " " 1.50

Smaller than 1/8 in.	Special	Over 3 in. to 3 1/2 in., to No. 19, inclusive,	$0.45
2 in. and up to 3 in., to No. 19, inclusive,	$0.38	Over 3 1/2 in. to No. 19, inclusive . . .	.50
3 in. to No. 19, inclusive	.40		

For Gauges thinner than No. 19, B. & S. Gauge, add to list as follows:

No.	20	21	22	23	24	25	26
Per lb.	.02	.04	.06	.08	.12	.16	.20

Thinner than No. 26, B. & S. Gauge, special prices.

PRICE LIST OF CUTTING BRAZED TUBING TO SPECIAL LENGTHS.

Add to list as follows:

Longer than 12 inches . . .	Per lb. 1c.	Over 2 inches to 4 inches . .	Per lb. 4
Over 6 inches to 12 inches . .	" 2c.	" 1 " 2 " . .	" 6
" 4 " 6 " . .	" 3c.		

BRASS ESCUTCHEON PINS.

ROUND HEADS. PACKED IN ONE POUND PAPER BOXES.

PRICE IN CENTS PER POUND.

	Inch.	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2
WIRE GAUGE SIZE.	10	. .	. .	75	73	72	71	70	69	68	67	66	65	65
	11	. .	. .	76	74	73	72	71	70	69	68	67	66	66
	12	. .	. .	77	75	74	73	72	71	70	69	68	67	67
	13	. .	. .	78	76	75	74	73	72	71	70	69	69	69
	14	90	83	80	77	76	75	74	73	72	71	70	70	70
	15	95	85	82	78	77	76	75	74	73	72	72	72	72
	16	100	90	85	82	80	78	76	75	74	74	74	74	75
	17	110	100	92	89	87	85	83	81	80	80	80	81	82
	18	120	110	100	96	94	92	90	90	90	92	92	93	95
	19	135	120	115	110	105	100	100	103	103	103	105	. .	. .
	20	155	135	125	120	115	110	110	115	115	115	. .	. .	. .
	21	175	155	145	135	130	130	135	135	. .	. .	. .	. .	. .
	22	200	175	160	145	140	145	. .	. .	. .	. .	. .	. .	. .

IRON ESCUTCHEON PINS. FLAT OR ROUND HEADS.

PRICE IN CENTS PER POUND.

	Inch.	3/16	1/4	3/8	1/2	5/8	3/4	7/8	1	1 1/8	1 1/4	1 1/2	1 3/4	2
WIRE GAUGE SIZE.	10	. .	.	29	26	24	23	22	21	20	19	17	17	16
	11	. .	. .	29	26	24	23	22	21	20	19	17	17	16
	12	. .	. .	32	28	26	24	23	22	21	19	18	17	17
	13	. .	. .	34	30	28	26	24	23	22	20	19	19	19
	14	. .	. .	37	33	30	27	24	23	23	21	20	20	20
	15	. .	44	40	36	32	28	25	24	24	23	22	22	22
	16	. .	47	42	37	33	29	26	25	25	24	24	24	24
	17	. .	49	44	39	35	31	28	27	27	26	26	26	26
	18	. .	52	47	42	37	33	30	29	29	28	28	28	28
	19	. .	62	52	47	42	37	35	35	35	35	35	. .	. .
	20	102	82	67	57	47	42	42	42	42	42	. .	. .	. .
	21	122	102	87	77	62	57	57	57	. .	. .	. .	. .	. .
	22	132	112	97	87	72	72	. .	.	. .	. .	. .	. .	. .

In ordering Iron or Steel Pins please state if Hard or Soft Pins are required.

TABLE OF WEIGHTS OF SHEET COPPER

Sheets

Stubs' Gauge No.	Thickness in decim'ls of inches.	Thickness in fractions of inches.	Weight in *pounds* per sq. foot.	Weight in *ounces* per sq. foot.	14x48in. Eq. 4 2-3 sq. ft. to Sheet	24x48in. Equal 8 sq. ft. to Sheet	24x60in. Equal 10 sq. ft to Sheet	24x96in. Equal 16 sq. ft. to Sheet	30x60in Equal 12½ sq. ft to Sheet	30x72in. Equal 15 sq. ft. to Sheet	30x84in. Equal 17½ sq. ft to Sheet	30x96in. Equal 20 sq ft. to Sheet	36x72in. Equal 18 sq. ft. to Sheet	36x84in. Equal 21 sq. ft. to Sheet	36x96in. Equal 24 sq. ft. to Sheet	48x72in. Equ 24 sq. to Sh
0000	.454	7-16 full.	20.556	329	96	164½	205½	328½	257	308½	359¾	411	370	432	493½	49
000	.425	7-16 scant.	19.253	308	90	154	192½	308	240⅔	288¾	338	385	346½	404	462	46
00	.380	⅜ full.	17.214	275½	80	137¾	172	275½	215¼	259¼	301¼	344	310	361½	413¼	41
0	.340	11-32 scant.	15.402	246½	71½	123¼	154	246½	192½	231	269½	308	277¼	323½	369½	36
1	.300	19-64 full.	13.59	217	63½	108¾	136	217½	170	203⅞	273¾	272	244½	285½	326	3
2	.284	9-32 “	12.865	206	60	103	128½	205	161	193	225	257	231⅓	270	309	3
3	.259	¼ “	11.733	188	54½	93⅞	117⅓	187¾	146½	176	205⅓	234⅔	211	246½	281	2
4	.238	15-64 “	10.781	172½	50	86¼	107⅞	172½	134½	161¾	183⅔	215⅔	194	226½	258¾	2
5	.220	7-32 “	9.966	159½	46½	79¾	99⅔	159½	124½	149½	174½	199⅓	179¼	209¼	239	2
6	.203	13-64 “	9.20	147	43	73½	92	147¼	115	138	161	184	165½	193	220½	2
7	.180	3-16 scant.	8.154	130½	38	65¼	81½	130½	102	122⅓	142¾	163	146¾	171¼	195¾	1
8	.165	11-64 “	7.475	119	35	59¾	74¾	119½	93½	112⅛	130¾	149½	134½	157	179¼	1
9	.148	9-64 full.	6.704	107	31	53⅝	67	107¼	83¾	100½	117⅓	134	120½	140¾	161	1
10	.134	9-64 scant.	6.070	97	28	48½	60¾	97	75¾	91	106¼	121½	109¼	127½	145½	1
11	.120	⅛ “	5.436	87	25	43½	54⅓	87	67¾	81½	95⅛	108⅔	93¾	114	130½	1
12	.109	7-64	4.938	79	23	39½	49⅓	79	61¾	74	86½	98⅔	88¾	103½	118½	1
13	.095	3-32 full.	4.303	69	20	34½	43	69	53¾	64½	75¼	86	77½	90⅜	103½	1
14	.083	5-64 “	3.760	60	17½	30	37⅝	60	47	56½	65¾	75¼	67½	78	90	
15	.072	5-64 scant.	3.262	52	15	26	32⅝	52¼	40¾	49	57	65¼	58¾	68½	78	
16	.065	1-16 full.	2.945	47	13	23½	29½	47	36¾	44⅙	51½	59	53	61⅞	70½	
17	.058	1-16 scant.	2.627	42	12¼	21	26¼	42	32⅞	39⅓	46	52½	47¼	55	63	
18	.049	3-64 full.	2.220	35½	10½	17⅝	22¼	35½	27¾	33⅓	38⅛	44½	40	46½	53	
19	.042	3-64 scant.	1.90	30½	8¾	15	19	30½	23¾	28½	33¼	38	34¼	40	45	
20	.035	1-32 full	1.59	25½	7½	12¾	16	25½	20	23⅞	27⅞	32	28⅝	33½	37½	
21	.032	1-32 scant.	1.45	23	6¾	11⅝	14½	23¼	18	21¾	25⅜	29	26	30½	34	
22	.028	....	1.27	20	6	10⅛	12¾	20¼	15⅞	29	22¼	25½	22⅞	26⅝	30⅜	
23	.025	....	1.13	18	5¼	9	11⅓	18	14⅛	17	19¾	22⅔	20⅓	23¾	27	
24	.022	....	.997	16	4⅔	8	10	16	12½	15	17½	20	18	21	24	
25	.020	....	.906	14½	4¼	7¼	9	14½	11⅓	13½	15⅞	18	16¼	19	21¾	
26	.018	....	.815	13	3¾	6½	8 1/16	13	10¼	12¼	14¼	16⅔	14⅔	17	19½	
27	.016	1-64	.725	11½	3⅜	5¾	7¼	11½	9	10⅞	12⅔	14½	13	15¼	16¼	
28	.014	....	.634	10	3	5 1/16	6⅓	10⅛	8	9½	11⅛	12⅔	11½	13⅓	15¼	
29	.013	....	.589	9½	2¾	4¾	5⅞	9½	7⅓	8⅞	10⅓	11¾	10⅝	12⅓	14¼	
30	.012	....	.544	8¾	2½	4⅓	5½	8¾	6¾	8⅛	9½	10½	9¾	11⅜	13	
31	.010	....	.453	7	2⅛	3⅝	4½	7¼	5⅔	6⅞	7⅞	9	8⅛	9½	10⅞	
32	.009	....	.408	6½	1⅞	3¼	4	6½	5	6⅛	7⅛	8⅛	7⅓	8½	9¾	
33	.008	....	.362	5¾	1⅔	2⅞	3⅝	5¾	4½	5½	6⅓	7¼	6½	7⅝	8⅝	
34	.007	....	.317	5	1½	2½	3 1/16	5	4	4¾	5½	6⅓	5¾	6⅝	7½	
35	.005	....	.227	3⅝	1	1⅝	2¼	3⅔	2⅞	3⅓	4	4½	4	4¾	5½	
36	.004	....	.181	3	⅞	1½	1 5/16	2⅞	2¼	2¾	3⅛	3⅝	3¼	3¾	4⅓	

ADVANCE PRICES OF SEAMLESS BRASS TUBING FOR PLUMBING, ON PAGE 332, 10 CENTS PER LB.

SOFT ROLLED SHEET COPPER.

When ordering Sheet Copper, always state whether you require Soft or Cold Rolled or "Mirror Finish." If you require sheets, Tinned on one side or plain on both sides, give length and width desired. Give thickness by weight to square foot, or in parts of an inch, or by gauge; if by gauge, state whether by Stubs' or Brown & Sharpe's gauge.

Where an advance is charged, on account of thickness, quality, or size of sheet, the advance stated in list is to be added to the "Base" price.

Sizes of Sheets.		64 oz. and over, 50 lb. sheet, 30x60 and heav'r	32 oz. to 64 oz. 25 to 50 lb. sheet, 30 x 60.	24 oz. to 32 oz. 18¾ to 25 lb. sheet, 30 x 60.	16 oz. to 24 oz. 12½ to 18¾ lb. sheet, 30x60	14 oz. and 15 oz. 11 to 12½ lb. sheet, 30x60	12 oz. and 13 oz. 9½ to 11 lb. sheet, 30x60	10 oz. and 11 oz. 7¾ to 9½ lb. sheet, 30x60	8 oz. and 9 oz. 6¼ to 7¾ lb. sh't 30 x 60.
WIDTHS.	LENGTHS.	CENTS PER POUND.							
Not wider than 30 ins.	Not longer than 72 ins.	Base	Base	Base	Base	1	2	3	6
	Longer than 72 ins. Not longer than 96 ins.	Base	Base	Base	Base	1	3	6	9
	Longer than 96 ins.	Base	Base	Base	Base	2	6		
Wider than 30 ins. but not wider than 36 ins.	Not longer than 72 ins.	Base	Base	Base	Base	2	4	7	10
	Longer than 72 ins. Not longer than 96 ins.	Base	Base	Base	Base	2	6	9	
	Longer than 96 ins. Not longer than 120 in.	Base	Base	Base	1	3			
	Longer than 120 ins.	Base	Base	1	2				
Wider than 36 ins. but not wider than 48 ins.	Not longer than 72 ins.	Base	Base	1	2	4	7	10	
	Longer than 72 ins. Not longer than 96 ins.	Base	Base	1	3	5	8		
	Longer than 96 ins. Not longer than 120 in.	Base	Base	2	4	8			
	Longer than 120 ins.	Base	1	3	6				
Wider than 48 ins. but not wider than 60 ins.	Not longer than 72 ins.	Base	Base	1	3	6	11		
	Longer than 72 ins. Not longer than 96 ins.	Base	Base	2	4	9			
	Longer than 96 ins. Not longer than 120 in.	Base	1	3	6				
	Longer than 120 ins.	1	2	4	8				
Wider than 60 ins. but not wider than 72 ins.	Not longer than 96 ins.	Base	1	3	8				
	Longer than 96 ins. Not longer than 120 in.	Base	2	5	10				
	Longer than 120 ins.	1	3	8					
Wider than 72 ins. but not wider than 108 in.	Not longer than 96 ins.	1	3	6					
	Longer than 96 ins. Not longer than 120 in.	2	4	7					
	Longer than 120 ins.	3	5	9					
Wider than 108 ins.	Not longer than 132 in.	4	6						
	Longer than 132 ins.	5	8						

COPPER CIRCLES, SEGMENTS AND PATTERN SHEETS.

3c. per lb. advance over price of sheets required to cut them from.

COLD OR HARD ROLLED COPPER.

14 oz. per square foot, and heavier, 1c. per lb. advance over the above prices.
Lighter than 14 oz. per square foot, 2c. per lb. advance over the above prices.

STAR BRAND, COLD ROLLED "MIRROR FINISH" COPPER.

For Sheets up to and including 20 inches wide, add 1c. per lb. to price of Cold Rolled Copper of same thickness.

For Sheets wider than 20 inches, add 2c. per lb. to price of Cold Rolled Copper of same thickness.

ROUND BOLT COPPER.

⅜ inch diameter and over, Base price. ¼ inch diameter, 2c. lb. advance over Base price. ⅛ and 3/16 in. diameter, 3c. lb. advance over Base price.

Carried in stock in lengths of about 10 feet all sizes from ⅛ to 1½ in. diameter, hard drawn.

ROLL AND SHEET BRASS.

Brown & Sharpe's Gauge
the Standard.

Prices in Cents per pound.

Common High Brass.	Wider than and	IN. 2	IN. 12	IN. 14	IN. 16	IN. 18	IN. 20	IN. 22	IN. 24	IN. 26	IN. 28	IN. 30	IN 32	IN. 34	IN. 36	IN. 38	IN. 40
	including	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40	
To No. 20. inclusive		.22	.23	.25	.27	.29	.31	.33	.36	.39	.42	.46	.50	.55	.60	.65	Special price not less than 80 cents.
Nos. 21, 22, 23 and 24		.22	.24	.26	.28	.30	.32	.34	.37	.40	.43	.47	.51	.56	.61	.68	
" 25 and 26		.23	.24½	.27	.29	.31	.33	.35	.38	.41	.44	.48	.52	.57	.63	.71	
" 27 and 28		.23	.25	.28	.30	.32	.34	.36	.39	.42	.45	.49	.53	.58	.65	.75	

Low Brass, 4 cents per lb. more than common High Brass.

The terms "High" and "Low" refer to the *quality* of the Brass and *not* the temper.

Low Brass contains a larger percentage of Copper.

Add ½ cent per lb. additional for each number thinner than Nos. 28 to 38 inclusive.

Add 7 cents per lb. for sheets cut to particular lengths, not sawed, of proportionate width.

Add for polishing on one side, 40 cents per square foot; on both sides, double this price.

Brazing, Spinning and Spring Brass, 1 cent more than common High Brass.

Extra Quality Brazing, Spinning and Spring Brass 2 cents more than common High Brass.

All segments, pattern sheets and irregular shape blanks shall be charged at a price which will represent actual metal used at full price, accounting for full amount of scrap made at Association price, with full cost of labor added.

Circles cut from above metal of proportionate width, No. 10 and thinner 6 cents per lb. additional.

Circles cut from above metal of proportionate width, thicker than No. 10, 10 cents per lb. additional.

All metal heavier than No. 6, B. & S. gauge, listed and charged as sawed metal, whether slit or sawed.

HIGH BRASS, BRONZE, AND LOW BRASS RODS.

PRICE LIST OF HIGH BRASS ROD.

Brown & Sharpe's Gauge the Standard.

¼ inch to 1 inch diameter, both inclusive, not less than 2 feet lengths		Per lb., 24c.
No. 8, and less than ¼ inch diameter	" " " " "	" " 26c.
Over 1 inch diameter	" " " " "	" " 27c.
Smaller than No. 8 to No. 11, inclusive	" " " " "	" " 30c.

Smaller than No. 11, see Wire List. Hexagon, Octagon and Square, 2 cents per pound advance over Round Rods.

Rods less than 2 ft. lengths, add to above prices for cutting:

12 in. to 24 in.	2c.	4 in. to 6 in.	5c.	9 in. to 12 in.	3c.	2 in. to 4 in.	8c.
6 in. to 9 in.	4c.	1 in. to 2 in.	12c.	Shorter than 1 inch, special.			

Gilding and Bronze Rods, add to above prices	Per lb., 8c.
Low Brass Rods. add to above prices	" " 4c.

We can furnish Round Brass and Bronze Rod up to 1¾ in. diam., 18 feet long; up to 2 in. diam., 14 feet long; up to 2½ in. diam., 10 feet long; up to 2¾ in. diam., 8 feet long; up to 3 in. diam., 7 feet long.

BRASS AND COPPER WIRE IN COILS.

Brown & Sharpe's Gauge.	Old English or London Gauge.	Soft and Hard High Brass.	Spring High Brass.	Low Brass.	Bronze and Copper.
All Nos. to No 10	All Nos. to No. 12	$0 23	$0 25	$0.27	$0.28
No. 10 = .10189	" 12 = .109	.23	.25	.27	.28
" 11 " .09074	" 13 " .095	.23½	.25½	.27½	.28½
" 12 " .08081	" 14 " .083	.23½	.25½	.27½	.28½
" 13 " .07196	" 15 " .072	.23½	.25½	.27½	.28½
" 14 " .06408	" 16 " .065	.23½	.25½	.27½	.28½
" 15 " .05707	" 17 " .058	.23½	.25½	.27½	.28½
" 16 " .05082	" 18 " .049	.23½	.25½	.27½	.28½
" 17 " .04526	" 18½ " .045	.24	.26	.28	.32
" 18 " .0403	" 19 " .042	.24	.26	.28	.32
" 19 " .036	" 20 " .035	.25	.27	.29	.33
" 20 " .03196	" 21 " .03 5	.25	.27	.29	.33
" 21 " .0285	" 22 " .0295	.26	.28	.30	.34
" 21½ " .027	" 23 " .027	.27	.29	.31	.35
" 22 " .0253	" 24 " .025	.27	.29	.31	.35
" 23 " .0226	" 25 " .023	.28	.30	.32	.36
" 24 " .0201	" 26 " 0205	30	.32	.34	.38
" 25 " .0179	" 27 " .01875	.32	.34	.36	.40

Brown & Sharpe's Gauge.	Old English or London Gauge.	Soft and Hard High Brass.	Spring High Brass.	Low Brass.	Bronze and Copper.
All Nos. to No. 10	All Nos. to No. 12				
No. 25½ = .0169	No. 28 = .0165	$.35	$0 37	$0.39	$0.43
" 26 " .0159	" 29 " .0155	.35	.37	.39	.43
" 27 " .0142	" 30 " .01375	.38	.40	.42	.46
" 28 " .0126	" 31 " .01225	42	.44	.46	.51
" 29 " .01125	" 32 " .01125	.45	.47	.49	.54
" 30 " .010	" 33 " .01025	.48	.50	.52	.62
" 31 " .009	" 35 " .009	.51	.53	.55	.67
" 32 " .008	" 35½ " .00825	.55	.57	.59	.73
" 33 " .0071	" 36 " .0075	.59	.61	.63	.82
" 34 " .0063	" 37 " .0065	.64	.66	.68	.95
" 35 " .0056	" 38 " .00575	.70	.72	.74	1.30
" 36 " .005	" 39 " .005	.76	.78	.80	1.50
" 37 " .00445	" 40 " .0045	1.00	1.02	1.04	1.70
" 38 " .004		1.30	1.32	1.34	2 00
" 39 " .00353		2.00	2.02	2.04	3.25
" 40 " .00314		2.60	2.62	2.64	5.75

Spring Wire, 2 cents per lb. advance. When ordering Brass Wire, state whether Soft, Hard or Spring Wire is wan'ed. Brass and Copper Wire to No. 21 inclusive, are numbered by Stubs' Gauge. No. 22 and finer by London Gauge. All orders in which the Gauge is not stated will be filled accordingly.

DOUBLE GALVANIZED TELEGRAPH AND TELEPHONE WIRE.

Of the Highest Electrical Qualities.

No. Birmingham Gauge.	Diam in inches.	Weight in Lbs. per Mile.	Put up in Bundles of	Approximate Breaking Strain in Pounds.			Average Resistance in Ohms at 68° F.		
				E. B. B.	B. B.	Steel.	E. B. B.	E. B.	Steel.
4	.225	730	¼ mile.	2,190	2,409	2,701	6.44	7.53	8.90
6	.192	540	⅓ “	1,620	1,782	1,998	8.70	10.19	12.04
8	.162	380	½ “	1,140	1,254	1,406	12.37	14.47	17.10
9	.148	320	½ “	960	1,056	1,184	14 69	17.19	20.31
10	.135	260	½ “	780	858	962	18.08	21.15	25.00
11	.120	214	½ “	642	706	792	21.96	25.70	30.37
12	.105	165	½ “	495	545	611	28.48	33.33	39.39
14	.080	96	½ “	288	317	355	48.96	57.29	67 71

Price Quoted on Application.

The values given in this table are averages of a large number of tests. They are within the limits of the specifications of the Western Union Telegraph Company.

The average value of the mile-ohm is 4,700 for E. B. B. wire.

The average value of the mile-ohm is 5,500 for B. B. wire.

The average value of the mile ohm is 6,500 for Steel wire.

HARD-COPPER TELEGRAPH AND TELEPHONE WIRE.

Sizes, Weights and Strengths of Hard-copper Telegraph and Telephone Wire.

Number B. & S. Gauge.	Diameter in Inches.	Weight in Pounds per Mile.	Breaking Strain in Pounds.	Resistance in International Ohms per Mile at 75° F.	Aproximate Size. Birmingham Gauge of E. B. B. Iron Wire of Equal Resistance.
9	.114	208	653	4.39	2
10	.102	166	540	5.49	3
11	.091	132	426	6.90	4
12	.081	105	334	8.70	6
13	.072	83	274	11.01	6½
14	.064	65	220	13.94	8
15	.057	52	174	17.57	9
16	.051	42	139	21.95	10

Prices on Application.

FOR ELECTRIC WIRES OF ALL KINDS, SEE OUR ELECTRIC CATALOGUE.

IRON AND STEEL WIRE.

Bright Market Wire. Annealed Market Wire. Annealed Fence Wire, Nos. 8 and 9. Annealed Bessemer Steel Wire Bright Charcoal Wire. Coppered Market Wire. Coppered Furniture Spring Wire. Galvanized Fence Wire.

GALVANIZED MARKET WIRE.

Numbers .	0000 to 9	10 and 11	12	13 and 16	15 and 16	17	18
Per lb. . .	$0.10	.11	.11½	.12½	.14	.15	.16

TINNED WIRE.

Numbers .	0 to 9	10 and 11	12 to 14	15 and 16	17	18
Per lb. . .	$0.15	.16	.17	.17½	.18	18½

STRAIGHTENING AND CUTTING WIRE TO LENGTHS.

Numbers .	00000 to 5	6 to 9	10 and 11	12 to 16	17 to 20
Per lb. . .	$0.01	.02	.03	.04	.05

Cut into lengths under 20 ins , per lb., . . . Cut into lengths over 20 ins., per lb., . .

"IMPERIAL" ALL ASBESTOS PIPE COVERINGS.

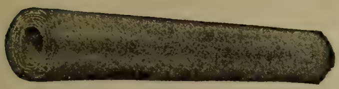


Fig. 1177.

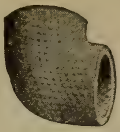


Fig. 1178.

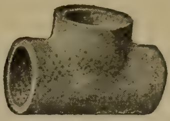


Fig. 1179.

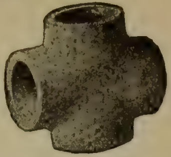


Fig. 1180.

PRICE LIST OF "IMPERIAL" COVERING.

Sizes.	Cov'g	Ells.	Tees.	Valves.	Sizes.	Cov'g.	Ells.	Tees.	Valves.
½ to ¾ inch,	$0.22	$0.23	$0.30	$0.30	4½ inch,	$0.50	$0.57	$0.76	$0.76
1 to 1¼ "	.25	.25	.32	.32	5 "	.55	.65	.88	.88
1½ "	.27	.27	.35	.35	6 "	.61	.72	1.00	1.00
2 "	.29	.29	.40	.40	7 "	.69	.82	1.15	1.15
2½ "	.33	.35	.45	.45	8 "	.77	.95	1.30	1.30
3 "	.37	.40	.50	.50	9 "	.88	1.10	1.50	1.50
3½ "	.41	.45	.58	.58	10 "	1.00	1.25	1.75	1.75
4 "	.46	.50	.66	.66	12 "	1.25	1.50	2.00	2.00

The covering and fittings are furnished ready for application, a sufficient quantity of small staples being supplied with each shipment. It is made of successive layers of pure indented asbestos felt, wire stitched at the edges and covered with a heavy canvas jacket.

ASBESTOS MAGNESIA MOULDED COVERING.

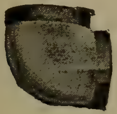


Fig. 1181.

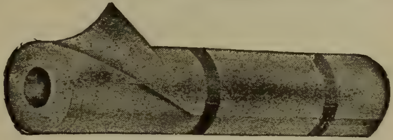


Fig. 1182.

Fig. 1183.

This covering is made of asbestos fibre and other light non-conductive materials. It is very strong, is absolutely fire-proof and is adapted for highest steam pressure. It will not crack and is made to fit pipes of all diameters from one-half inch upward. The fittings are furnished of the same materials and fit perfectly. It can be easily applied to hot or cold pipes by any practical man. We always send with this covering sufficient metal bands to fasten it securely.

PRICE LIST OF ASBESTOS MAGNESIA MOULDED COVERING.

Sizes	Cov'g.	Ells.	Tees	Valves.	Sizes.	Cov'g.	Ells.	Tees.	Valves
½ to ¾ inch,	$0.20	$0.24	$0.27	$0.20	4½ inch,	$0.43	$0.43	$0.61	$0.61
1 to 1¼ "	.21	.24	.30	.22	5 "	.49	.49	.67	.67
1½ "	.23	.24	.33	.24	6 "	.56	.56	.73	.73
2 "	.26	.27	.36	.27	7 "	.64	.64	.82	.82
2½ "	.29	.29	.39	.39	8 "	.70	.70	.91	.91
3 "	.32	.32	.45	.45	9 "	.77	.77	1.03	1.03
3½ "	.35	.35	.50	.50	10 "	.85	.85	1.15	1.15
4 "	.38	.38	.55	.55	12 "	1.00	1.00	1.30	1.30

"EUREKA" PIPE COVERING.

For all low pressure steam pipes and hot water pipes, filling all requirements.

It is made of wool felt and asbestos. Fittings take same list as W. B. Covering.

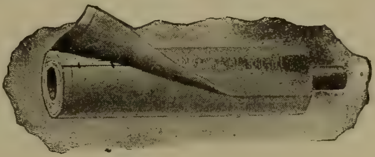


Fig. 1184.

W. B. PIPE COVERING.

Is composed of consecutive layers of asbestos about the pipe. Outside of this the wool felt with a canvas cover or jacket.

PRICE LIST OF "W. B." COVERING.

Sizes.	Cov'g.	Ells.	Tees.	Valves.	Sizes.	Cov'g.	Ells.	Tees.	Valves.
½ to ¾ inch,	$0.20	$0.25	$0.27	$0.25	4½ inch,	$0.46	$0.46	$0.72	$0.72
1 to 1¼ "	.23	.25	.30	.27	5 "	.50	.50	.80	.80
1½ "	.25	.25	.33	.33	6 "	.58	.58	.90	.90
2 "	.27	.27	.38	.38	7 "	.65	.65	1.00	1.00
2½ "	.30	.30	.43	.43	8 "	.72	.72	1.10	1.10
3 "	.34	.34	.49	.49	9 "	.80	.80	1.20	1.20
3½ "	.38	.38	.56	.56	10 "	.89	.89	1.35	1.35
4 "	.42	.42	.64	.64	12 "	1.00	1.00	1.50	1.50

PRICE LIST OF "EUREKA" COVERING.

Sizes, inch,	½ to ¾,	1 to 1¼,	1½,	2,	2½,	3,	3½,	4,	4½,	5,	6,	7,	8,	9,	10,	12,
Cov'g, per ft.	$0.18	.20	.22	.24	.27	.31	.35	.39	.43	.47	.53	.60	.65	.70	.77	.85

STANDARD STEAM, GAS AND WATER PIPE.

BLACK AND GALVANIZED.

Adopted February 15, 1900.

Size inside diameter	⅛	¼	⅜	½	¾	1	1¼	1½
Price, per foot	$0.05½	.05½	.05½	.08½	.11½	.16½	.22½	.27
Thickness	.068	.088	.091	.109	.113	.134	.140	.145
Nominal weight, per foot	0.24	0.42	0.56	0.84	1.12	1.67	2.24	2.68
Number of threads	27	18	18	14	14	11½	11½	11½

Size inside diameter	2	2½	3	3½	4	4½	5
Price, per foot	$0.36	.57½	.75½	.95	1.08	1.30	1.45
Thickness	.154	.204	.217	.226	.237	.246	.259
Nominal weight, per foot	3.61	5.74	7.54	9.00	10.66	12.49	14.50
Number of threads	11½	8	8	8	8	8	8

Size, inside diameter	6	7	8	9	10	11	12
Price, per foot	$1.88	2.35	2.82	3.40	4.25	4.75	5.20
Thickness	.280	.301	.322	.344	.366	.375	.375
Nominal weight, per foot	18.76	23.27	28.18	33.70	40.00	45.00	49.00
Number of threads	8	8	8	8	8	8	8

Unless otherwise ordered, black pipe, random lengths, with threads and couplings will be shipped. For cut lengths an extra charge will be made above random lengths. For pipe smoothed on the inside, known as plugged and reamed, an extra charge will be made above regular pipe. For galvanized pipe an extra charge will be made above black. For asphalted pipe an extra charge will be made above black.

EXTRA STRONG STEAM, GAS AND WATER PIPE.

Size, inches	⅛	¼	⅜	½	¾	1	1¼	1½	2
Actual outside diameter	.405	.540	.675	.840	1.05	1.315	1.66	1.90	2.375
Nominal inside diameter	.205	.294	.421	.542	.736	.951	1.272	1.494	1.933
Thickness	.100	.123	.127	.149	.157	.182	.194	.203	.221
Nominal weight, per foot	.29	.54	.74	1.09	1.39	2.17	3.00	3.63	5.02
Price, per foot	$0.11	.11	.11	.12	.15	.22	.30	.36	.50

Size, inches	2½	3	3½	4	4½	5	6	7	8
Actual outside diameter	2.875	3.50	4.00	4.50	5.00	5.563	6.625	7.625	8.625
Nominal inside diameter	2.315	2.892	3.358	3.818	4.280	4.813	5.750	6.625	7.625
Thickness	.280	.304	.321	.341	.360	.375	.437	.500	.500
Nominal weight, per foot	7.67	10.25	12.47	14.97	18.22	20.54	28.58	37.67	43.00
Price, per foot	$0.81	1.05	1 33	1.50	1.95	2.16	2.90	3.80	4.30

Extra Strong Pipe will be shipped in random lengths and plain ends unless otherwise ordered. For pipe fitted with threads and couplings an extra charge will be made above regular. For cut lengths an extra charge will be made above random lengths. For galvanized or asphalted an extra charge will be made above black.

DOUBLE EXTRA STRONG STEAM, GAS AND WATER PIPE.

Size, Inches	½	¾	1	1¼	1½	2	2½	3
Actual Outside Diameter	.84	1.05	1.315	1.66	1.90	2.375	2.875	3.50
Nominal Inside Diameter	.244	.422	.587	.885	1.088	1.491	1.755	2.284
Thickness	.298	.314	.364	.388	.406	.442	.560	.608
Nominal Weight, per foot	1.70	2.44	3.65	5.20	6.40	9.02	13.68	18.56
Price, per foot	$0.25	.30	.37	.52	.65	.95	1.37	1.92

Size, Inches	3½	4	4½	5	6	7	8
Actual Outside Diameter	4.00	4.50	5.00	5.563	6.625	7.625	8.625
Nominal Inside Diameter	2.716	3.136	3.564	4.063	4.875	5.875	6.875
Thickness	.642	.682	.718	.75	.875	.875	.875
Nominal Weight, per foot	22.75	27.48	32.53	38.12	53.11	62.38	71.62
Price, per foot	$2.45	2.85	3.30	3.80	5.30	6.25	7.20

Double Extra Strong Pipe will be shipped in random lengths and plain ends unless otherwise ordered. For pipe fitted with threads and couplings an extra charge will be made above regular. For cutting lengths an extra charge will be made above random lengths. For galvanized or asphalted an extra charge will be made above black.

ARCH PIPES.

Price per lb., $

WATER GRATES.

Price per lb., $

DRY PIPES.

Price per lb., $

SAFE ENDS.

Schedule of Net Prices for Each Safe End.

Outside Diameter, Inches.	Thickness B'g'm W. G.	Length in Inches. 6 and Under.	7	8	9	10	11	12
		Cts.	Cts.	Cts.	Cts.	Cts.	Cts.	Cts.
1 to 1¾ Inclusive.	12	14	16¼	18½	20¾	23	25¼	27½
	11	15¼	17½	19¾	22	24¼	26½	28¾
	10	16½	18¾	21	23¼	25½	27¾	30
2	12	13	15	17	19	21	23	25
	11	14	16	18	20	22	24	26
	10	15	17	19	21	23	25	27
2¼	12	14	16¼	18½	20¾	23	25¼	27½
	11	15¼	17½	19¾	22	24¼	26½	28¾
	10	16½	18¾	21	23¼	25½	27¾	30
2½	11	16	18½	21	23½	26	28½	31
	10	18	20½	23	25½	28	30½	33
2¾ & 3	11	20	23	26	29	32	35	38
	10	23	26	29	32	35	38	41
3¼	10	22	25¼	28½	31¾	35	38¼	41½
	9	25¼	28½	31¾	35	38¼	41½	44¾
3½	10	25	28½	32	35½	39	42½	46
	9	28½	32	35½	39	42½	46	49½
3¾	10	27	30¾	34½	38¼	42	45¾	49½
	9	30¾	34½	38¼	42	45¾	49½	53¼
4	9	29	33	37	41	45	49	53
	8	33	37	41	45	49	53	57
4½	9	32	36½	41	45½	50	54½	59
	8	36½	41	45½	50	54½	59	63½
5	8	37	42	47	52	57	62	67
	7	42	47	52	57	62	67	72
6	7	45	51	57	63	69	75	81
	6	51	57	63	69	75	81	87

THREADING STAY TUBES.

For Threading 2¾ inches and smaller tubes, for a length up to 3 inches, 12 cents per end.
For Threading 3 to 5 inches, inclusive, tubes, for a length up to 3 inches, 20 cents per end.
Longer threads in same proportion.

STANDARD LAP-WELDED BOILER TUBES.

Outside Diameter,	Inches,	1	1¼	1½	1¾	2	2¼	2½
Price,	per Foot,	$0.30	.28	.27	.22	.20	.24	.28
Thickness,	Inches,	.095	.095	.095	0.95	.095	.095	.109
Thickness nearest B. W. G.,		13	13	13	13	13	13	12
Nominal Weight,	per Foot,	.90	1.15	1.40	1.66	1.91	2.16	2.75
Outside Diameter,	Inches,	2¾	3	3¼	3½	3¾	4	4½
Price,	per Foot,	$0.34	.35	.40	.44	.50	.55	.62
Thickness,	Inches,	.109	.109	.120	.120	.120	.134	.134
Thickness nearest B. W. G.,		12	.12	.11	.11	.11	.10	.10
Nominal Weight,	per Foot,	3.04	3.33	3.96	4.28	4.60	5.47	6.17
Outside Diameter,	Inches,	5	6	7	8	9	10	12
Price,	per Foot,	$0.75	1.00	1 20	1.50	1.70	2.10	2.90
Thickness,	Inches,	.148	.165	.165	.165	.180	.203	.229
Thickness nearest B. W. G.,		9	8	8	8	7	6	4½
Nominal Weight,	per Foot,	7.58	10.16	11 90	13.65	16.76	21.00	28 50

The above prices are for Tubes up to 22 feet long—for tubes in excess of that length, ten per cent. will be added to net of invoice.

EXTRA WIRE GAUGE BOILER TUBES.

For extra wire gauge boiler tubes, away from standard not exceeding four wire gauges, one cent for each inch in diameter of tube for each additional gauge will be charged and added to net of invoice.

Tubes more than four wire gauges heavier than standard will be charged by the pound the same as plain end stay tubes, arch pipes, dry pipes and water grates.

SWELLING ENDS OF BOILER TUBES UP TO 1-4 INCH LARGER IN DIAMETER.

Net Prices for Any Quantity.

	2 in.	2¼ in.	2½ in.	2¾ in.	3 in.	3¼ in.	3½ in.	3¾ in.	4 in.
Per end,	$0.05	.05	.08	.08	.08	.10	.10	.10	.10

UPSETTING ENDS OF BOILER STAY TUBES.

External Diam. in inches.	1½	1¾	1⅞	2	2⅛	2¼	2⅜	2½	2¾	2⅞	3	3¼	3½	3¾	4	4¼	4½	4¾	5
Price per end, 3/16 in. thick.	$.52	.54.	58	.60	.66	.75	.80	.90	.96	1.05	1 15	..	..	..	..	..	..	..	..
Price per end, ¼ in. thick.	.36	.40	.40	.45	.48	.51	.60	.69	.75	.78	.81	.90	.96	1.05	1.05	1.11	1.20	1.35	1.50
Price per end, 5/16 in. thick.	.34	.36	.36	.40	.44	.47	.56	.65	.70	.73	.76	.85	.90	.98	1.05	1.11	1.20	1.35	1.50

Upsetting Tubes over 5/16 inch thick, same price as 5/16 inch thick.

When the length of the Upset exceeds 2½ inches, add 20 cents to the list for every ½ inch of extra length.

"DIAMOND LOCOMOTIVE" BRAND BOILER TUBES.

SOLID DRAWN CHARCOAL HAMMERED IRON.

Outside Diameter,	Inches,	1	1¼	1½		1¾	2	2¼
Standard Gauge for this Brand,		13	13	13		12	12	12
Price	Per Foot,	$0.38	.36	.34		.32	.32	.35
Outside Diameter,	Inches,	2½	2¾	3	3¼	3½	3¾	4
Standard Gauge for this Brand,		11	11	11	10	10	10	9
Price	Per Foot,	$0.38	.42	.45	.51	.58	.64	.72

"SALAMANDER" BRAND takes same list of prices, sizes, etc., as the "Diamond Locomotive" Brand.

PURE SHEET COPPER SEAMLESS BOILER TUBE FERRULES.

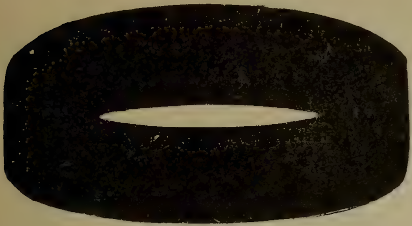


Fig. 1185.

Fig. 1186.

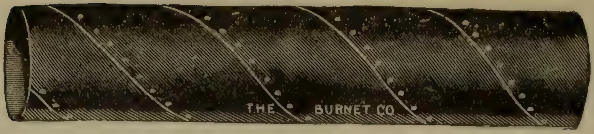
PRICE LIST PER HUNDRED OF PURE SHEET COPPER SEAMLESS BOILER TUBE FERRULES WITHOUT FLANGE.

Inside Diameter.	Width.	Thickness of Copper.						
		$\frac{1}{32}$	$\frac{3}{64}$	$\frac{1}{16}$	$\frac{5}{64}$	$\frac{3}{32}$	$\frac{7}{64}$	$\frac{1}{8}$
1 in.	$\frac{1}{2}$	$5.00	7.00	9.00	10.50	12.00	13.00	14.00
	$\frac{5}{8}$	5.50	7.50	9.50	11.00	12.50	13.50	14.50
1¼ in.	$\frac{1}{2}$	6.00	8.00	10.00	11.50	13.00	14.00	15.00
	$\frac{5}{8}$	6.50	8.50	10.50	12.00	13.50	14.50	15.50
1½ in.	$\frac{1}{2}$	6.50	8.50	10.50	12.00	13.50	14.50	15.50
	$\frac{5}{8}$	7.00	9.00	11.00	12.50	14.00	15 00	16.00
1¾ in.	$\frac{1}{2}$	7.00	9.00	11.00	12.50	14.00	15.00	16.00
	$\frac{5}{8}$	7.50	9.50	11.50	13.00	14.50	15.50	16.50
	$\frac{3}{4}$	8.00	10.00	12.00	13.50	15.00	16.00	17.00
1⅞ in.	$\frac{1}{2}$	7.50	9.50	11.50	13.00	14.50	15.50	16.50
	$\frac{5}{8}$	8.00	10.00	12.00	13.50	15.00	16.00	17.00
	$\frac{3}{4}$	8.50	10.50	12.50	14.00	15.50	16.50	17.50
	$\frac{7}{8}$	9.50	11.50	13.50	15.00	16.50	17.50	18.50
	1	10.50	12.50	14.50	16.00	17.50	18.50	19.50
2 in.	$\frac{1}{2}$	8.00	10.00	12.00	13.50	15.00	16.00	17.00
	$\frac{5}{8}$	8.50	10.50	12.50	14.00	15.50	16.50	17.50
	$\frac{3}{4}$	9.00	11.00	13.00	14.50	16.00	17.00	18.00
	$\frac{7}{8}$	10.00	12.00	14.00	15.50	17.00	18.00	19.00
	1	11.00	13.00	15.00	16.50	18.00	19.00	20.00
2¼ in.	$\frac{5}{8}$	10.50	12.50	14.50	16.00	17.50	18.50	19.50
	$\frac{3}{4}$	11.00	13.00	15.00	16.50	18.00	19.00	20.00
	$\frac{7}{8}$	12.00	14.00	16.00	17.50	19.00	20.00	21.00
	1	13.00	15.00	17.00	18.50	20.00	21.00	22.00
2½ in.	$\frac{5}{8}$	12.50	14.50	16.50	18.00	19.50	20.50	21.50
	$\frac{3}{4}$	13.00	15.00	17.00	18.50	20.00	21.00	22.00
	$\frac{7}{8}$	14.00	16.00	18.00	19.50	21.00	22.00	23.00
	1	15.00	17.00	19.00	20.50	22.00	23.00	24.00
3 in.	$\frac{3}{4}$	16.00	18.00	20.00	21.50	23.00	24.00	25.00
	$\frac{7}{8}$	17.00	19.00	21.00	22.50	24.00	25.00	26.00
	1	18.00	20.00	22.00	23.50	25.00	26.00	27.00
3¼ in.	$\frac{3}{4}$	19.00	21.00	23.00	24.50	26.00	27.00	28.00
	$\frac{7}{8}$	20.00	22.00	24.00	25.50	27.00	28.00	29.00
	1	21.00	23.00	25.00	26.50	28.00	29.00	30.00
3½ in.	$\frac{3}{4}$	22.00	24.00	26 00	27.50	29.00	30.00	31.00
	$\frac{7}{8}$	23.00	25.00	27.00	28.50	30.00	31 00	32.00
	1	24.00	26.00	28.00	29.50	31.00	32.00	33.00
4 in.	$\frac{7}{8}$	27.00	29.00	31.00	32.50	34.00	35.00	36.00
	1	28.00	30 00	32.00	33.50	35.00	36.00	37.00
	1¼	29.00	31.00	33.00	34.50	36.00	37.00	38.00

For price of Flanged Ferrules add $2.00 per 1,000.

Price quoted per lb. on application.

SPIRAL RIVETED PIPE.



Cut shows

Plain Ends.

Fig. 1187.

NO. 26. BIRMINGHAM WIRE GAUGE, THICKNESS, .018 INCH.

PRICE PER LINEAL FOOT, PLAIN OR CRIMPED END.

Diameter.	Black.	Dipped in Coal Tar and Asphalt.	Galvanized.	Approximate Weight Per 100 Feet.
3 inch	$0.17	$0.20	$0.25	90 lbs.
4 "	.21	.25	.33	115 "
5 "	.25	.30	.40	140 "
6 "	.28	.34	.46	165 "

NO. 24. BIRMINGHAM WIRE GAUGE, THICKNESS, .022 INCH.

PRICE PER LINEAL FOOT,

With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diam. in Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.
3	$0.20	$0.23	$0.30	100 lbs.
4	.25	.29	.38	130 "
5	.30	.35	.45	160 "
6	.33	.39	.50	185 "
7	.37	.44	.60	210 "
8	.42	.50	.65	240 "
9	.48	.57	.75	280 "
10	.54	.64	.85	300 "
11	.60	.71	.90	330 "
12	.68	.80	1.05	400 "

No. 26 and No. 24 Gauge in lengths of 10 feet and less.

NO. 22. BIRMINGHAM WIRE GAUGE, THICKNESS, .028 INCH.

PRICE PER LINEAL FOOT,

With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diam. in Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.
3	$0 24	$0.27	$0.32	130 lbs.
4	.30	.34	.43	160 "
5	.37	.42	.53	200 "
6	.40	.46	.60	230 "
7	.45	.52	.65	260 "
8	.53	.61	.75	300 "
9	.60	.69	.90	340 "
10	.65	.75	1.00	380 "
11	.70	.81	1.10	420 "
12	.82	.94	1.25	490 "
13	.90	1.03	1.35	530 "
14	1.00	1.14	1.45	575 "

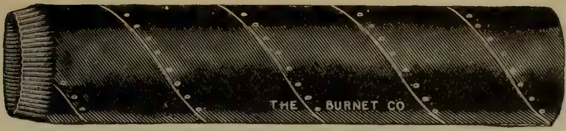
No. 22 Gauge in lengths of 20 feet and less.

The above approximate weights are for black pipe only, and intended as guides for estimating freight charges; galvanized or asphalted pipe, same gauge and diameter, is from 20 to 30 per cent. heavier.

In ordering pipe, the margin of safety should be at least one-half or two-thirds of the bursting pressure.

SPIRAL RIVETED PIPE.

Fig. 1188.



Cut Shows Crimped End.

NO. 20, BIRMINGHAM WIRE GAUGE. THICKNESS, .035 INCH.

Price per Lineal Foot. With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diameter In Inches.	Black.	Asphalted.	Galvanized.	Weight. Per 100 Feet.	Approximate Bursting Pres. in Lbs. Per Sq. Inch.
3	$0.27	$0.30	$0.38	150 lbs.	900 lbs.
4	.35	.39	.48	200 "	700 "
5	.40	.45	.60	250 "	550 "
6	.46	.52	.68	300 "	450 "
7	.51	.58	.75	325 "	400 "
8	.58	.66	.85	360 "	350 "
9	.66	.75	.97	410 "	325 "
10	.72	.82	1.05	500 "	275 "
11	.78	.89	1.20	550 "	250 "
12	.90	1.02	1.35	600 "	225 "
13	1.00	1.13	1.50	650 "	210 "
14	1.10	1.24	1 60	700 "	200 "
15	1.20	1.35	1.75	750 "	190 "
16	1.30	1.46	1.85	800 "	160 "
18	1.40	1.58	2.05	900 "	150 "
20	1.60	1.80	2.30	960 "	140 "
22	1.80	2.02	2.55	1040 "	125 "
24	1.95	2,19	2.85	1150 "	110 "

The above approximate weights are for black pipe only, and intended as guides for estimating freight charges; galvanized or asphalted pipe, same gauge and diameter, is from 20 to 30 per cent. heavier.

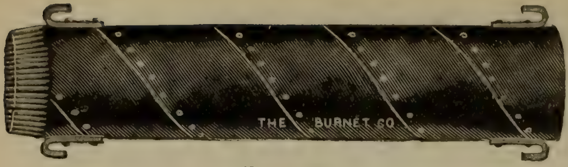
NO. 18, BIRMINGHAM WIRE GAUGE. THICKNESS, .049 INCH.

Price per Lineal Foot. With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diameter In Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.	Approximate Bursting Pres. in Lbs. Per Sq. Inch.
3	$0.34	$0.37	$0.46	185 lbs.	1300 lbs.
4	.42	.46	.58	245 "	1000 "
5	.50	.55	.70	300 "	800 "
6	.57	.63	.85	360 "	700 "
7	.63	.70	.90	400 "	600 "
8	.73	.81	1.05	460 "	500 "
9	.82	.91	1.18	525 "	450 "
10	.90	1.00	1.30	575 "	400 "
11	.95	1.06	1.40	625 "	360 "
12	1.15	1.27	1.65	750 "	330 "
13	1.25	1.38	1.80	800 "	300 "
14	1.35	1.49	1.95	900 "	280 "
15	1.50	1.65	2.10	950 "	260 "
16	1.60	1.76	2 25	1000 "	250 "
18	1.75	1.93	2.55	1125 "	220 "
20	2 00	2.20	2.90	1250 "	200 "
22	2.20	2.42	3 10	1350 "	180 "
24	2.40	2 64	3 35	1460 "	160 "

The above approximate weights are for black pipe only, and intended as guides for estimating freight charges; galvanized or asphalted pipe, same gauge and diameter, is from 10 to 20 per cent. heavier. All the above in lengths of 25 feet and less, black or asphalted, and of 20 feet and less galvanized. Each length tested to service required.

SPIRAL RIVETED PIPE.



Cut Shows

Crimped End Pipe with Lugs.

For Wiring Lugs, Extra Price.

Fig. 1189.

NO. 16, BIRMINGHAM WIRE GAUGE. THICKNESS, .065 INCH.

Price per Lineal Foot. With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diameter In Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.	Approximate Bursting Pres. in Lbs. Per Sq. Inch.
4	$0.50	$0.54	$0.70	320 lbs.	1250 lbs.
5	.60	.65	.85	415 "	1000 "
6	.70	.76	1.00	500 "	800 "
7	.80	.87	1.10	550 "	700 "
8	.93	1.01	1.28	650 "	600 "
9	1.08	1.17	1.47	750 "	550 "
10	1.15	1.25	1.55	800 "	500 "
11	1.20	1.31	1.70	850 "	450 "
12	1.45	1.57	2.05	1025 "	400 "
13	1.55	1.68	2.15	1100 "	380 "
14	1.70	1.84	2.40	1200 "	360 "
15	1.85	2.00	2.60	1300 "	330 "
16	2.00	2.16	2.75	1375 "	300 "
18	2.20	2.38	3.10	1550 "	280 "
20	2.45	2.65	3.40	1675 "	250 "
22	2.80	3.02	3.90	1825 "	230 "
24	3.00	3.24	4.30	2000 "	210 "

NO. 14, BIRMINGHAM WIRE GAUGE. THICKNESS, .083 INCH.

Price per Lineal Foot. With Plain or Crimped End; or with Sleeve for Slip-Joint.

Diameter In Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.	Approximate Bursting Pres. in Lbs Per Sq. Inch.
6	$0.89	$0.95	$1.15	610 lbs.	1100 lbs.
7	1.02	1.09	1.35	700 "	950 "
8	1.15	1.23	1.50	825 "	825 "
9	1.32	1.41	1.70	925 "	750 "
10	1.40	1.50	1.80	1025 "	650 "
11	1.50	1.61	1.95	1125 "	600 "
12	1.80	1.92	2.35	1325 "	550 "
13	1.90	2.03	2.50	1425 "	500 "
14	2.10	2.24	2.70	1560 "	470 "
15	2.25	2.40	2.90	1680 "	450 "
16	2.40	2.56	3.15	1790 "	400 "
18	2.75	2.93	3.60	2000 "	370 "
20	3 10	3.30	4.00	2200 "	325 "
22	3.40	3.62	4.55	2400 "	300 "
24	3.70	3.94	4 85	2620 "	275 "

The above approximate weights are for black pipe only, and intended as guides for estimating freight charges; galvanized or asphalted pipe, same gauge and diameter, is from 10 to 20 per cent. heavier. All the above in lengths of 25 feet and less, black or asphalted, and of 20 feet and less galvanized. Each length tested to service required.

WROUGHT IRON LUGS FOR SLIP-JOINTS.

Black . . . 15 cents each. Galvanized . . 18 cents each.

SPIRAL RIVETED PIPE.

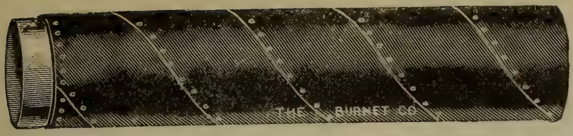


Fig. 1190.

Cut Shows Sleeve for Slip Joint.

When sleeves are furnished, same are included in lineal measurement of pipe.

NO. 12, BIRMINGHAM WIRE GAUGE. THICKNESS, .109 INCH.

Price per Lineal Foot. With Plain or Crimped End, or with Sleeve for Slip-Joint.

Diameter in Inches.	Black.	Asphalted.	Galvanized.	Approximate Weight Per 100 Feet.	Approximate Bursting Pres. in Lbs. Per Sq. Inch.
6	$1.25	$1.31	$1.90	800 lbs.	1330 lbs.
7	1.40	1.47	2.10	910 "	1140 "
8	1.55	1.63	2.30	1040 "	1000 "
9	1.70	1.79	2.50	1180 "	880 "
10	1.90	2.00	2.75	1300 "	800 "
11	2.25	2.36	3.00	1425 "	725 "
12	2.50	2.62	3.25	1700 "	660 "
13	2.70	2.83	3.50	1810 "	615 "
14	2.90	3.04	3.75	2010 "	570 "
15	3.10	3.25	4.00	2165 "	530 "
16	3.25	3.41	4.25	2310 "	500 "
18	3.60	3.78	4.70	2570 "	440 "
20	4.00	4.20	5.25	2830 "	400 "
22	4.35	4.57	5.75	3090 "	365 "
24	4.70	4.94	6.25	3380 "	335 "

The above approximate weights are for black pipe only, and intended as guides for estimating freight charges; galvanized or asphalted pipe, same gauge and diameter, is from 10 to 20 per cent. heav er. In lengths of 25 feet and less, black or asphalted, and of 20 feet and less galvanized. Each length tested to service required.

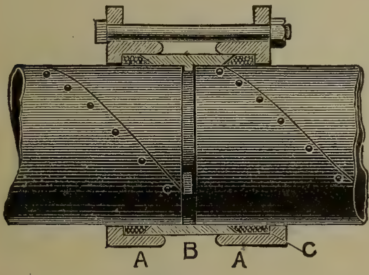


Fig. 1191.

BOLTED JOINT.

FOR SPIRAL RIVETED PIPE.

Roots' Bolted Joint is recommended for use where the pressure is excessive, as it admits of making a perfectly *tight joint* by means of the rubber packing "C," and without the annoyance connected with lead-caulking. By its use one or more lengths of pipe can be taken out and replaced without disturbing the balance of the line, and if necessary the whole line can be moved and the same pipe and joints be used again, an operation not possible with leaded joints.

Diameter.	Price.	Approximate Weight.	Diameter.	Price.	Approximate Weight
3 inches.	$1.15	8 lbs.	12 inches.	$6.00	50 lbs.
4 "	1.40	11 "	13 "	6.50	55 "
5 "	1.70	14 "	14 "	7.25	60 "
6 "	2.10	17 "	15 "	8.00	65 "
7 "	2.50	20 "	16 "	8.50	70 "
8 "	3.25	25 "	18 "	10.00	80 "
9 "	4.00	30 "	20 "	11.50	90 "
10 "	4.75	36 "	22 "	12.50	105 "
11 "	5.50	45 "	24 "	13.50	120 "

DOUBLE GALVANIZED SPIRAL RIVETED FLANGED PRESSURE PIPE.

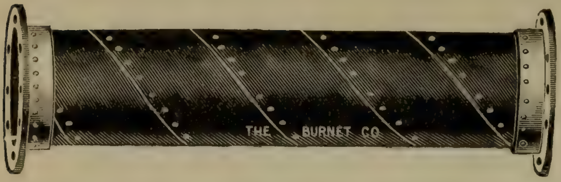


Fig. 1192.

Made of galvanized iron and regalvanized after formation, thereby making all seams and laps perfectly solid. Each length tested to 150 pounds Hydrostatic Pressure, suitable for **EXHAUST STEAM, EXHAUST-STEAM HEATING, PUMP SUCTION, PUMP COLUMN, COMPRESSED AIR, REFRIGERATING PIPE, ETC.**

Inside Diam. in Inches.	Price Per Lineal Foot, Including Flanges.	Thickness, B. W. G	Approximate Weight, Per Foot.	Approximate Bursting Pres. in Lbs. Per Square In
3	$0.50	No. 20	2¼ lbs.	900 lbs.
4 . .	.70	"	3 "	700 "
5 . .	1.00	"	4 "	550 "
6 . .	1.20	No. 18	5 "	700 "
7 . .	1.40	"	6 "	600 "
8 . .	1.70	"	7 "	500 "
9 . .	2.00	"	8 "	450 "
10 . .	2.60	No. 16	11 "	500 "
11 . .	2.85	"	12 "	450 "
12 . .	3.15	"	14 "	400 "
13 . .	3.60	"	15 "	380 "
14 . .	4.00	No. 14	20 "	470 "
15 . .	4 40	"	22 "	450 "
16 . .	5.15	"	24 "	400 "
18 . .	6.40	"	29 "	370 "
20 . .	7.95	"	34 "	325 "
22 . .	10.00	No. 12	40 "	365 "
24 . .	12.00	"	50 "	335 "

In lengths of 20 feet and less.

Pipe and Fittings gotten out to specifications and drawings when desired. Where lengths required are ALL 5 feet or less, they are charged as being 5 feet each.

GALVANIZED CAST AND WROUGHT IRON FITTINGS.

FOR SPIRAL RIVETED FLANGED PIPE.

Inside Diameter.	90° Elbows.	45° Elbows.	Return Bends.	Tees.	Reducing Tees.	Y-Branches.	Reducing Y-Branches
3 inch	$1.60	$1.60	$3.20	$2 75	$3.00	$4.40	$4.85
4 "	2.10	2.10	4 20	3.25	3.60	5.20	5.70
5 "	2.85	2.85	5.70	4 40	4 85	7.00	7.70
6 "	4.10	4 10	8 20	5.70	6.30	9.10	10.00
7 "	5 10	5.10	10.20	7.30	8 05	11.70	12.90
8 "	6.70	6.70	13.40	9.80	10.80	15.70	17.25
9 "	9.00	9.00	18.00	13 80	15.20	20.10	22.10
10 "	10.00	10.00	20.00	17.60	19.35	28.10	31.00
11 "	13 00	13.00	26.00	20.00	22 00	32.00	35.20
12 "	15.80	15.80	31.60	22.50	24.75	36.00	39.60
13 "	19.15	19.15	38.30	25.00	27.50	40.00	44.00
14 "	22.30	22 30	44.60	30.50	33.50	48.80	53.70
15 "	26.00	26.00	52.00	37.00	40.70	59.20	65.10
16 "	30.00	30.00	60.00	44 00	48 40	70.40	77.45
18 "	34.00	34.00	68.00	50.00	55.00	80 00	88.00
20 "	38.50	38.50	77.00	56.00	61.60	89.60	98.60
22 "	42 00	42.00	84.00	60.00	66.00	96.00	105.60
24 "	45.00	45.00	90.00	70.00	77.00	112.00	123.20

GALVANIZED CAST AND WROUGHT IRON FITTINGS.

FOR SPIRAL RIVETED FLANGED PIPE.

Inside Diameter.	Crosses.	Reducers.	Flanges.	Disks.	Bolts.	Gaskets.	Double Elbows.
3 inch	$4.15	$ . .	$0.39	$0.45	$0.04	$0.09	$3.00
4 "	5.30	3.00	.52	.65	.04	.10	3.60
5 "	6.70	3.50	.65	.78	.04	.12	4.85
6 "	8.00	4.75	.78	1.17	.04½	.16	6.30
7 "	11.00	5.50	1.04	1.56	.04½	.18	8.05
8 "	14.25	6.50	1.17	1.82	.04½	.23	10.80
9 "	18.80	8.00	1.56	2.34	.04½	.31	15.20
10 "	24.50	10.25	1.82	2.47	.04½	.40	19.35
11 "	26.50	12.00	1.95	3.25	.04½	.45	22.00
12 "	30.00	13.00	2.08	3.90	.04½	.50	24.75
13 "	33.50	14.60	2.34	4.55	.04½	.56	27.50
14 "	38.00	16.50	2.60	5.46	.05	.63	33.50
15 "	45.00	18.40	3.12	5.98	.05	.75	40.70
16 "	53.00	21.30	4.42	6.76	.05	.90	48.40
18 "	59.00	26.00	5.07	9.10	.05½	1.08	55.00
20 "	67.00	29.40	5.59	11.70	.05½	1.25	61.60
22 "	77.00	33.00	9.10	14.30	.05½	1.75	66.00
24 "	87.00	37.00	9.75	16.90	.05½	2.00	77.00

BLACK CAST AND WROUGHT IRON FITTINGS.

FOR SPIRAL RIVETED FLANGED PIPE.

Inside Diameter.	90° Elbows.	45° Elbows.	Return Bends.	Tees.	Reducing Tees.	Y-Branches.	Reducing Y-Branches.
3 inch	$1.25	$1.25	$2.50	$1.95	$2.15	$3.10	$3.40
4 "	1.50	1.50	3.00	2.20	2.40	3.50	3.85
5 "	2.00	2.00	4.00	3.10	3.40	5.00	5.50
6 "	2.90	2.90	5.80	3.90	4.30	6.25	6.90
7 "	3.50	3.50	7.00	5.00	5.50	8.00	8.80
8 "	4.50	4.50	9.00	6.60	7.25	10.50	11.50
9 "	6.20	6.20	12.40	9.25	10.15	14.80	16.30
10 "	6.80	6.80	13.60	11.50	12.65	18.40	20.25
11 "	8.75	8.75	17.50	14.00	15.40	22.40	24.65
12 "	10.50	10.50	21.00	15.00	16.50	24.00	26.40
13 "	12.00	12.00	24.00	16.50	18.15	26.40	29.00
14 "	13.50	13.50	27.00	18.60	20.50	29.75	32.70
15 "	15.00	15.00	30.00	22.00	24.20	35.20	38.70
16 "	17.00	17.00	34.00	25.00	27.50	40.00	44.00
18 "	20.00	20.00	40.00	29.00	31.90	46.40	51.00
20 "	23.00	23.00	46.00	34.00	37.40	54.40	59.80
22 "	26.00	26.00	52.00	39.00	43.00	62.40	68.60
24 "	30.00	30.00	60.00	45.00	49.50	72.00	79.20

Inside Diameter.	Crosses.	Reducers.	Flanges.	Disks.	Bolts.	Gaskets.	Double Elbows.
3 inch	$3.00	$ . .	$0.24	$0.28	$0.02½	$0.09	$2.15
4 "	3.70	2.00	.32	.40	.02½	.10	2.40
5 "	4.80	2.40	.40	.48	.02½	.12	3.40
6 "	5.70	3.25	.48	.72	.03	.16	4.30
7 "	7.70	4.00	.64	.96	.03	.18	5.50
8 "	9.80	4.75	.72	1.12	.03	.23	7.25
9 "	13.00	5.50	.96	1.44	.03	.31	10.15
10 "	16.50	7.00	1.12	1.62	.03	.40	12.65
11 "	19.00	8.00	1.20	2.00	.03	.45	15.40
12 "	21.00	9.00	1.28	2.40	.03	.50	16.50
13 "	24.00	9.75	1.44	2.80	.03	.56	18.15
14 "	27.00	11 00	1.60	3.36	.03½	.63	20.50
15 "	31.00	12.25	1.92	3.68	.03½	.75	24.20
16 "	34.50	14.20	2.72	4.16	.03½	.90	27.50
18 "	39.00	17.40	3.12	5.60	.04	1.08	31.90
20 "	45.00	19.60	3.44	7.20	.04	1.25	37.40
22 "	51.00	22.00	5.60	8.80	.04	1.75	43.00
24 "	58.00	25.00	6.00	10.40	.04	2.00	49.50

Connection with wrought iron pipe readily made by means of threaded disks.

STRAIGHT SEAM RIVETED PIPE AND FITTINGS.

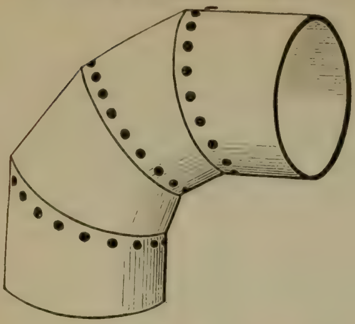


Fig. 1193.

HEAVY RIVETED ELBOW.

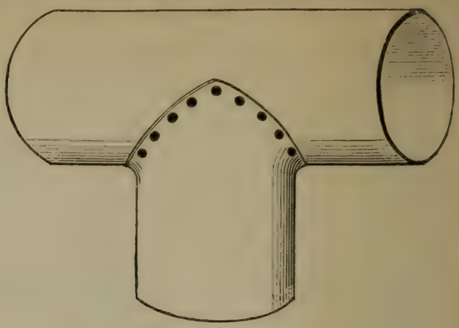


Fig. 1194.

HEAVY RIVETED TEE.

MANUFACTURED OF

HEAVY GAUGES OF BLACK AND GALVANIZED SHEET IRON.

SUITABLE FOR

WATER, BLOWER, AIR, VENTILATOR PIPE, AND SMOKE STACKS, ETC.

PIPE.	Black.	Galvanized.
No. 10 to 14, B. W. G., per lb.	8 cts.	11 cts.
No. 15 to 17, B. W. G., "	9 "	12 "
No. 18 to 20, B. W. G., "	10 "	14 "
No. 21 to 24, B. W. G., "	11 "	16 "

ELBOWS, TEES, CROSSES, ETC.	Black.	Galvanized.
No. 10 to 14, B. W. G., 8 inches diameter and larger, per lb.	18 cts.	21 cts.
No. 15 to 17, B. W. G., " " " "	19 "	22 "
No. 18 to 20, B. W. G., " " " "	21 "	25 "
No. 21 to 24, B. W. G., " " " "	26 "	30 "
No. 18 to 20, B. W. G., 7 " " and smaller, "	24 "	28 "
No. 21 to 24, B. W. G., " " " "	31 "	35 "

Fittings coated with Coal Tar and Asphalt at 300 degrees temperature, extra.

No. 16, W. G., and Heavier,	extra net	1 cent lb.
No. 17, W. G., and Lighter,	"	1½ "

Pipe ½ cent for each inch of diameter per lineal foot.

Pipe and fittings gotten out to drawings, and specifications and estimates furnished.

GALVANIZED WROUGHT IRON STRAINERS FOR PUMP SUCTIONS.

Fitted with Flange, Socket and Nipple Joints, suitable for Welded, Cast Iron and Spiral Pressure Pipes.

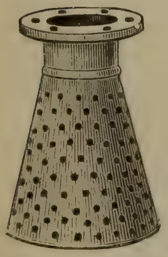


Fig. 1195.

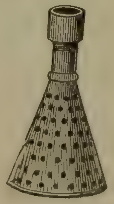


Fig. 1196.

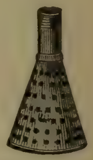


Fig. 1197.

Diam. Suction Pipe, inches	½	¾	1	1¼	1½	2	2½	3	3½	4
Screw Nipple Joint, each	$0.60	.70	.85	1.15	1.45	2.00	2.85	3.45	4.60	5.75
Flange or Socket Joint, each	.65	.75	.95	1.25	1.60	2.25	3.40	4.25	5.15	6.65

Diam. Suction Pipe, inches	5	6	7	8	9	10	11	12	14
Screw Nipple Joint, each	$6.85	8.00							
Flange or Socket Joint, each	8.00	9.75	11.45	14.90	20.60	23.00	26.30	28.60	40.00

The area of the perforations in each strainer exceeds the area of the suction pipe, and gives full supply of water to the pump.

When ordering Flange give outside diameter of Flange.

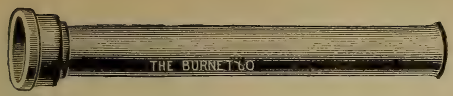


Fig. 1198.

CAST-IRON PIPE
FOR
WATER AND GAS.

STANDARD WEIGHT FOR WATER.

Size . .	Inches,	3	4	6	8	10	12	14	16	20	24	30
Thickness .	"	3/8	1/2	1/2	1/2	9/16	9/16	3/4	3/4	15/16	1	1 1/8
Weight, per foot	lbs.,	15	22	33	45	60	75	117	125	200	250	350

Coated inside and out. Tested to 300 lbs. hydraulic pressure. Weights are for pipes to lay 12 feet.

STANDARD WEIGHT FOR GAS.

Size . .	Inches,	3	4	6	8	10	12	14	16	20	24
Thickness .	"	5/16	3/8	7/16	7/16	7/16	1/2	9/16	9/16	11/16	3/4
Weight, per foot,	lbs.,	12½	17	30	40	50	70	84	100	150	184

Not coated. Tested to 250 lbs. hydraulic pressure. Weights are for pipe to lay 12 feet.

WEIGHT OF LEAD AND HEMP USED PER JOINT IN LAYING CAST-IRON PIPE.

Size . .	Inches,	3	4	6	8	10	12	14	16	20	24	30
Lead, per joint .	lbs.,	4	5½	8	11	15	18	22	24	28	32	38
Hemp " "	ounces,	6	7	9	11	13	18	20	22	28	32	38

CAST-IRON FLANGED PIPE.

Made in all sizes from 4 to 30 inches. Prices quoted on application.

SPECIAL FOR CAST-IRON PIPE—REDUCERS.

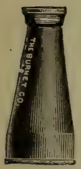

THE BURNET CO.

Fig. 1199.

Size, Inches.	Weight, Light.	Weight, Heavy.	Size, Inches.	Weight, Light.	Weight Heavy.	Size, Inches.	Weight, Light.	Weight, Heavy.
3 x 2	28 lbs.	35 lbs.	12 x 10	220 lbs.	320 lbs.	16 x 10	435 lbs.	590 lbs.
4 x 3	40 "	48 "	12 x 8	200 "	300 "	20 x 16	520 "	1214 "
6 x 4	70 "	115 "	12 x 6	170 "	290 "	20 x 14	575 "	655 "
6 x 3	52 "	103 "	12 x 4	150 "	250 "	20 x 12	530 "	1150 "
8 x 6	118 "	170 "	14 x 12	410 "	540 "	24 x 20	745 "	1025 "
8 x 4	102 "	145 "	14 x 10	350 "	430 "	24 x 16	..	805 "
10 x 8	165 "	270 "	14 x 8	320 "	340 "	30 x 24	..	1585 "
10 x 6	135 "	199 "	16 x 14	500 "	700 "	30 x 20	..	2010 "
10 x 4	128 "	180 "	16 x 12	470 "	620 "	30 x 16	..	1365 "

INCREASERS.

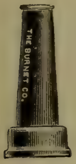

THE BURNET CO.

Fig. 1200.

Size, Inches.	Weight.	Size, Inches.	Weight.	Size Inches	Weight.	Size, Inches.	Weight.	Size, Inches.	Weight.
4 x 3	78 lbs.	8 x 4	163 lbs.	10 x 4	185 lbs.	10 x 8	204 lbs.	12 x 8	318 lbs.
6 x 4	108 "	8 x 6	165 "	10 x 6	195 "	12 x 6	230 "	12 x 10	332 "

Y BRANCHES.

All sizes. 4 to 30 inches. Price on receipt of specifications.

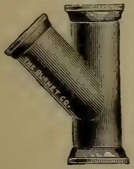

THE BURNET CO.

Fig. 1201.

SLEEVES, PLUGS AND CAPS FOR CAST-IRON PIPES.

Size .	. Inches,	3	4	6	8	10	12	14	16	20	24	30
Sleeves	weight, lbs.,	30	42	76	110	146	208	300	360	557	710	965
Plugs	" "	10	12	22	32	46	66	70	100	150	185	370
Caps	" "	15	25	60	75	100	120	..	..	..	..	..

All weights approximate only.

SPECIALS FOR CAST-IRON PIPE.

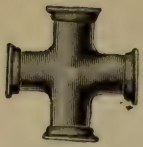


Fig. 1202.
Cross.

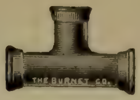


Fig. 1203.
Tee.

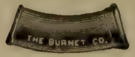


Fig. 1204.
Eighth Bend.

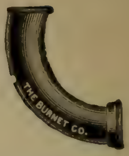


Fig. 1205.
Quarter Bend.

CROSSES.

Size, inches.	Weight.	Size, inches.	Weight.	Size, inches.	Weight.	Size, inches.	Weight.
3x3x3x3	98 lbs.	8x 8x 4x 4	290 lbs.	12x12x10x10	665 lbs.	20x20x20x20	1790 lbs.
4x4x4x4	130 "	10x10x10x10	520 "	12x12x 8x 8	610 "	20x20x16x16	1340 "
6x6x6x6	200 "	10x10x 8x 8	460 "	12x12x 6x 6	580 "	24x24x24x24	2190 "
6x6x4x4	190 "	10x10x 6x 6	410 "	14x14x14x14	840 "	24x24x20x20	2020 "
8x8x8x8	370 "	10x10x 4x 4	346 "	16x16x16x16	1135 "	30x30x30x30	3600 "
8x8x6x6	350 "	12x12x12x12	714 "	16x16x12x12	1005 "	30x30x20x20	2635 "

TEES.

Size, inches.	Weight.	Size, inches.	Weight.	Size, inches.	Weight.	Size, inches.	Weight.
3x3x3	80 lbs.	8x 8x 4	217 lbs.	12x12x10	525 lbs.	20x20x20	1760 lbs.
4x4x4	100 "	10x10x10	390 "	12x12x 8	510 "	20x20x16	1500 "
6x6x6	214 "	10x10x 8	355 "	12x12x 6	500 "	24x24x24	2010 "
6x6x4	160 "	10x10x 6	312 "	12x12x 4	480 "	24x24x20	1825 "
8x8x8	285 "	10x10x 4	300 "	16x16x16	1300 "	30x30x30	3025 "
8x8x6	237 "	12x12x12	540 "	16x16x12	1240 "	30x30x20	2200 "

ONE-EIGHTH BENDS (45°).

Size, inches, .	3	4	6	8	10	12	14	16	20	24	30
Weight, approx., lbs.,	42	82	120	218	300	355	430	610	1220	1425	2450

ONE-SIXTEENTH BENDS (22 1-2°).

Size, inches, .	3	4	6	8	10	12	14	16	20	24	30
Weight, approx., lbs.,	33	54	100	175	250	270	400	610	922	1145	2180

QUARTER BENDS, OR ELBOWS (90°).

Size, inches, .	3	4	6	8	10	12	14	16	20	24	30
Weight, approx., lbs.,	48	60	112	200	265	376	450	650	1030	1400	2280

WINDOW GLASS.

Price per Box of 50 Square Feet.

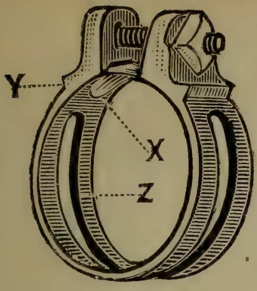
United Inches.	SIZES.	SINGLE.				DOUBLE.		
		AA	A	B	C	AA	A	B
25	6 x 8 to 10 x 15	$17.50	$16.25	$15.50	$15.00	$23.50	$22.00	$21.00
34	11 x 14 12 x 13 } to 14 x 20	20.00	18.50	17.25	16.50	28.50	26.25	24.50
40	10 x 26 to 16 x 24	22.00	20.00	18.50	17.75	31.25	28.50	26.25
50	18 x 22 20 x 20 } to 20 x 30	25.00	23.00	21.00	. .	34.50	31.75	28.75
54	15 x 36 to 24 x 30	27.00	24.50	22.00	. .	36.50	33.75	30.50
60	26 x 28 to 24 x 36	30.00	26.75	24.00	. .	41.00	37.25	33.75
70	26 x 34 28 x 32 30 x 30 } to 30 x 40	33.50	30.50	27.00	. .	47.00	42.75	38.00
80	32 x 38 34 x 36 } to 30 x 50	40.00	36.50	32.00	. .	55.00	50.50	45.50
84	30 x 52 to 30 x 54	41.25	37.50	33.75	. .	57.00	51.75	46.50
90	30 x 56 to 34 x 56	. .	. .	. .	. .	59.50	54.00	48.50
94	34 x 58 to 34 x 60	. .	. .	. .	. .	63.00	57.50	52.00
100	36 x 60 to 40 x 60	. .	. .	. .	. .	66.50	60 50	55.00

Sizes above 100 inches $10.00 per box extra for every 5 inches.

An additional 10 per cent. will be charged for all glass more than 40 inches wide.

All sizes over 52 inches in length, and not making more than 81 united inches, will be charged in the 84 united inches bracket.

To find the number of lights in a box, divide the number of square inches (7200) in a box by the number of square inches in size of light wanted



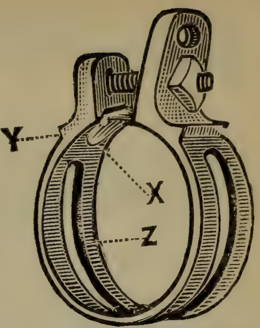
Double Hose Band.
Fig. 1206.

YERDON'S IMPROVED DOUBLE HOSE BAND.

The Metal used in these Bands will not Rust or Rot the Hose.

Bolts with Square Head Furnished when ordered.

Special Sizes Made Upon Orders.



Double Hose Band with Eye. Fig. 1207.

Where Used.	Circumference When Closed. Inches.	Diameter When Closed. Inches.	Per Dozen.
1 inch 3 ply Air Brake Hose	4.79	1.52	$2.50
1 “ 4 “ “	5.37	1.71	2.50
1 ‘ 5 “ “	5.64	1.80	2.50
1¼ “ 4 “ “	6.08	1.93	3.00
1¼ “ 5 “ “	6.32	2.01	3.00
2¼ ‘ Tank Hose	8.21	2.60	7.00
2½ “ “ “	8.92	2.90	7.00
2½ “ 4 ply Steam Hose	9.27	2.97	8.50
1½ “ Steam Hose Gibbs Coupler	7.20	2.30	4.00
1⅜ “ “ “ Sewall's Coupler . .	6.78	2.16	3.75
Eye Band, Sewall's Coupler Hose	6.78	2.16	4.00
“ “ “ “ “ New Pattern . . . . . } . .	6.53	2.08	4.00
Eye Band, Gold Coupler	6.04	1.92	3.75

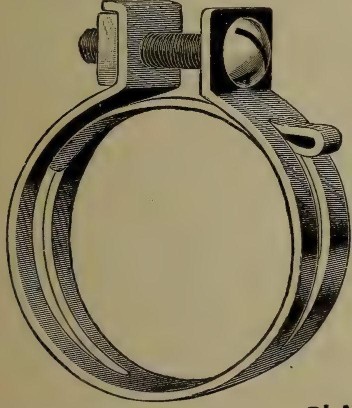


Fig. 1208.

REDFIELD'S "SURE GRIP" HOSE CLAMPS.

Wrought Steel, finished in Vienna Bronze. Size and ply plainly stamped on every Clamp.

CLAMPS FOR COTTON MILL HOSE.

Size of Hose, inches . .	1¼	1½	2
Per dozen	$2.00	$2.50	$3.50

Packed:

1¼ and 1½ inch, 3 dozen, and 2 inch, 2 dozen in a box.

CLAMPS FOR STEAM HOSE.

Size Hose, inches	½	¾	1	1¼	1½	2
Per dozen, 3 ply	$1.00	$1.50	$2.50	$3.00	$3.50	——
“ “ 4 “	1.00	1.50	2.50	3.00	3.50	$5.50
“ “ 5 “	1.00	1.50	2.50	3.00	3.50	5.50
“ “ 6 “	——	——	2.50	3.00	3.50	——

Packed, ½ inch, 6 dozen; ¾, 1, 1¼ and 1½, 3 dozen; and 2 inch, 2 dozen in a box.

CLAMPS FOR HYDRANT HOSE.

Size Hose, inches	½	¾	1	1¼	1½	2	2¼	2½	3
Per dozen, 2 ply	——	——	$1.50	——	——	——	$5.50	——	——
“ “ 3, 4 and 5 ply .	$1.00	1.00	1.50	2.50	3.00	4.00	5.50	7.00	10.00

Packed, ½, ¾, 6 dozen; 1, 1¼, 1½, 3 dozen; 2, 2¼, 2½, 3 inch, 2 dozen in a box.

CLAMPS FOR 1 1-4 INCH AIR BRAKE HOSE.

1¼ A Bolts, ¼ x 1½, per 100, $8.00.

1¼ AB Bolts, 5/16 x 1½ per 100, $8.50.

1¼ W Bolts, 5/16 x 1¾, per 100, $9.00.

CLAMPS FOR 1 INCH AIR BRAKE AND SIGNAL HOSE.

1A Bolts, ¼ x 1¼, per 100, $7.00.

1AB Bolts, ¼ x 1¼, per 100, $7.00.

Fig. 1209.

AIR-BRAKE HOSE.

FOR AIR AND VACUUM BRAKES.

1 inch internal diameter,	.	Per foot	$0.83
1¼ " " "		"	1.04
1 " " "		Ends capped	1.00
1¼ " " "		"	1.25

Fig. 1210.

CORRUGATED TENDER HOSE.

Fig. 1211.

This hose is corrugated in order to attain great flexibility, and has steel wire inserted between the plies to prevent collapsing or kinking.

It is made in 3 or 4 plies, and is guaranteed to do excellent service.

Size.	3-Ply.	4-Ply.
1½ inch . . .	$0.40	$0.50
1¾ " . . .	.45	.55
2 " . . .	.50	.60
2¼ " . . .	.55	.65
2½ " . . .	.60	.70

AIR DRILL HOSE.

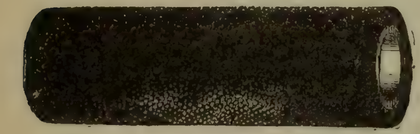


Fig. 1212.

Made from duck of the highest grade specially woven for this purpose, and capable of standing the most severe pressure and service. The rubber is of a grade that has proven its merit by many years of successful operation.

CANVAS WRAPPED.

Internal Diameter.	4-Ply. Including Canvas Cover.	5-Ply. Including Canvas Cover.	6-Ply. Including Canvas Cover.
¾ inch	$0.67	$0.83	$1.00
1 "	.83	1.03	1.24
1¼ "	1.04	1.30	1.56
1½ "	1.25	1.56	1.87
2 "	1.66	2.07	2.49
2½ "	2.08	2.60	3.12
3 "	. . .	3.50	4.20

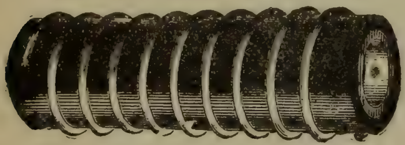


Fig. 1213.

WIRE WOUND.

Will not unwind when Hose is cut. Wound with heavy round steel wire.

Int Diam.	4-Ply.	5-Ply.	6-Ply.
¾ inch	$0.67	$0.83	$1.00
1 "	.83	1.03	1.24
1¼ "	1.04	1.30	1.56
1½ "	1.25	1.56	1.87
2 "	1.66	2.07	2.49
2½ "	2.08	2.60	3.12
3 "	. . .	3.50	4 20

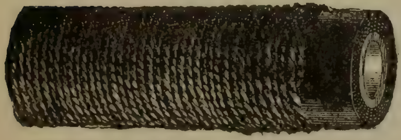


Fig. 1214.

STEAM HOSE.

MARLINE WOUND.

List price same as above. Additional charge for Marline Winding, 10 per cent.

WIRE WOUND HOSE.

PRICE FOR WIRING WATER HOSE.

Size.	3-Ply.	4-Ply.	5-Ply.	6-Ply.
½ inch	$0.02½	$0.03	$0.03½	$0.04
¾ "	.03	.03½	.04½	.05
1 "	.04	.05	.06	.07
1¼ "	.05	.06	.07½	.09
1½ "	.06	.07½	.09	.11
2 "	.08	.10	.12	.15
2½ "	.10	.12	.15	.18
3 "	.12	15	.18	.22

PRICE FOR WIRING STEAM AND AIR HOSE.

Size.	3-Ply.	4-Ply.	5-Ply.	6-Ply.
½ inch	$0.04	$0.05	$0.06	$0.07
¾ "	.05	.06½	.08	.10
1 "	.06½	.08	.10	.12
1¼ "	.08½	.10	.13	.15
1½ "	.10	.12½	.15	.18
2 "	.13	.16	.20	.24
2½ "	.16	.20	.25	.30
3 "	.20	28	.35	.40

RUBBER HOSE.

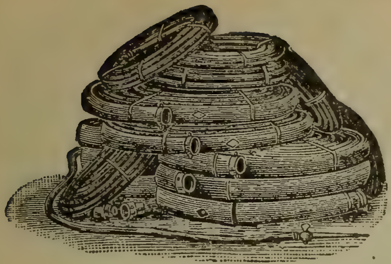


Fig. 1215.

CONDUCTING HOSE, 2-PLY.

This Hose is adapted to conduct water under moderate pressure. The larger sizes are mainly used for Tank Hose at Railway Stations.

HYDRANT HOSE, 3-PLY.

Intended for Hydrant, Garden and Force Pump uses, where the pressure does not exceed 75 lbs. per square inch.

WATER HOSE LIST.

Internal Diam.	2-Ply Per ft.	3-Ply. Per ft.	4-Ply. Per ft.	5-Ply. Per ft.	6-Ply. Per ft.
½ inch.	$0.20	$0.25	$0.30	$0.37	$0.45
¾ "	.25	.30	.37	.46	.55
1 "	.33	.40	.50	.62	.75
1¼ "	.42	.50	.62	.77	.93
1½ "	.50	.60	.75	.93	1.12
1¾ "	.58	.70	.87	1.08	1.30
2 "	.66	.80	1.00	1.25	1.50
2¼ "	.75	.90	1.12	1.40	1.68
2½ "	.83	1.00	1.25	1.56	1.87
2¾ "	.92	1.10	1.37	1.71	2.05
3 "	.99	1.20	1.50	1.87	2.25
3½ "	1.16	1.40	1.75	2.18	2.62
4 "	1.32	1.60	2.00	2.50	3.00
5 "	1.65	2.00	2.50	3.13	3.75
6 "	1.98	2.40	3.00	3.75	4.50
7 "	2.31	2.80	3.50	4.38	5.25
8 "	2.64	3.20	4.00	5.00	6.00
9 "	2.97	3.60	4.50	5.63	6.75
10 "	3.33	4.00	5.00	6.25	7.50

ENGINE HOSE, 4-PLY.

We recommend this Hose, particularly the larger sizes, for all general purposes where a good, strong, reliable Hose is required. It is made to stand a pressure of from 100 to 200 lbs. per square inch.

HIGH PRESSURE HOSE.

FIVE AND SIX-PLY.

Intended for use where the pressure is severe.

All the above kinds of hose that are in general use kept on hand in lengths of 25 and 50 feet, and these we do not cut. Lengths less than 50 feet made to order at three days' notice.

EXTRA HEAVY STEAM HOSE. BREWERS', OIL AND TANNERS' HOSE.

Int. Diam.	3-Ply. Per ft.	4-Ply. Per ft.
½ inch,	$0.43	$0.51
¾ "	.51	.67
1 "	.67	.83
1¼ "	.85	1.04
1½ "	1.02	1.25
1¾ "	1.18	1.45
2 "	1.34	1.66
2½ "	1.66	2.08
3 "	2.00	2.80

Int. Diam.	5-Ply. Per ft.	6-Ply. Per ft.	7-Ply. Per ft.	8-Ply. Per ft.
½ inch.	$0.63	$0.76	$0.89	$1.02
¾ "	.83	1.00	1.17	1.34
1 "	1.03	1.24	1.45	1.66
1¼ "	1.30	1.56	1.82	2.08
1½ "	1.56	1.87	2.18	2.50
1¾ "	1.81	2.17	2.53	2.90
2 "	2.07	2.49	2.90	3.32
2¼ "	2.33	2.80	3.27	3.74
2½ "	2.60	3.12	3.64	4.16
3 "	3.50	4.20	4.90	5.60

Three-Ply, based on 20 lbs; Four-Ply, based on 40 lbs; Five-Ply, based on 60 lbs; Six-Ply, based on 80 lbs; Seven-Ply, based on 90 lbs; Eight-Ply, based on 100 lbs, for 1-inch hose,

COTTON FIRE HOSE.

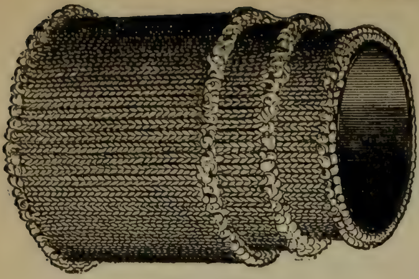


Fig. 1216.
"TRIPLEX" BRAND.

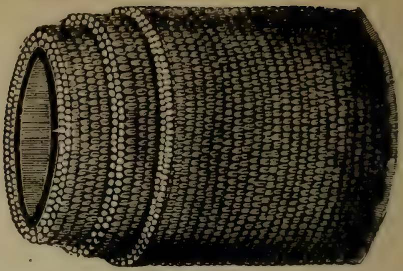


Fig. 1217.
"TRINAL' BRAND.

The two brands illustrated, Figs. 1216 and 1217, are intended for exceptionally heavy pressure and for unusually severe duty.

The "Triplex" is a knit hose and is like the famous "Duplex" brand with an additional jacket.

The "Trinal" is a woven hose, made as the cut shows, with three separate jackets.

Either will stand a pressure of 600 pounds to the square inch.

2½ in internal diameter, $1 00 per foot. 3½ in. internal diameter, $1.50 per foot
3 " " 1 25 "

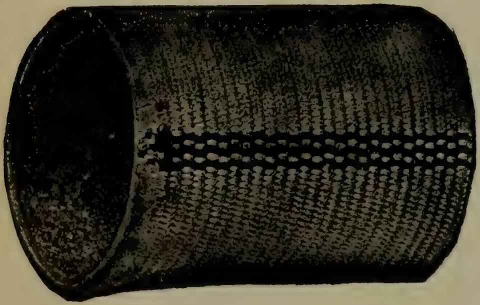


Fig. 1218.

"MUTUAL" UNDERWRITERS' COTTONFIRE HOSE.

This brand of Rubber Lined Cotton Fire Hose is guaranteed to stand a pressure of 400 lbs. to the square inch, and is made to conform with the specifications of Mr. John R. Freeman, of the Associated Factory Mutual Insurance Companies, and has been approved and accepted as standard.

2⅝ inch water way, per foot . $1.00

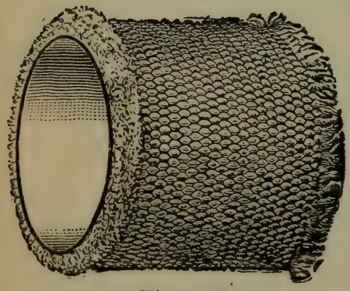


Fig. 1219.

COTTON MILL HOSE.

"EXTRA," "INSURANCE," "SEA ISLAND" AND "STAPLE."

Adapted for Hand Engines, Factories, Warehouses, Hotels, Steamboats, Public Institutions, Railroad Shops, etc., wherever a *light*, *durable* and *reliable* hose for fire protection is required.

The "Extra" brand is a full weight article, made in the most careful manner, and every section is mildew-proofed and guaranteed to stand a water pressure of 300 lbs. The "Insurance" brand is a closely woven fabric, mildew-proofed, and will sustain a pressure of 300 lbs.

1¼ inch diameter per foot.	$0.45	2¼ inch diameter, per foot	$0.65
1½ "	.50	2½ " "	.70
2 "	.60	3 " "	1.00

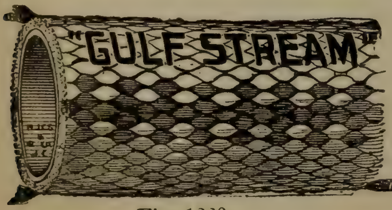


Fig. 1220.

COTTON GARDEN HOSE.

"Gulf Stream," "Sea Island," "Staple" and "Brunswick." Seamless and Rubber Lined.

½ inch diameter, 20 cents; ¾ inch, 25 cents; 1 inch, 35 cents per foot. In Lengths of 50 Feet.

All ½ and ¾ in. Cotton Hose is coupled before shipment 20 cents per set extra, net, will be charged for couplings on all ½ and ¾ hose ordered in 25 feet lengths.

One inch couplings, net, 30 cents per set, attached.

COTTON FIRE HOSE.

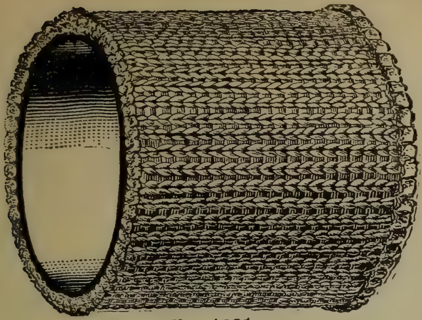


Fig. 1221.

"RELIABLE" BRAND.

We make for Fire Departments or wherever a HIGH PRESSURE HOSE is required, several grades suitable for this class of service.

This is an extra heavy, single body, Knit Hose. It will stand a water pressure of 400 lbs. to the square inch.

1½ inch internal diameter,	.	50 cents per foot.
2 “ “ “	.	60 “
2½ “ “ “	.	75 “

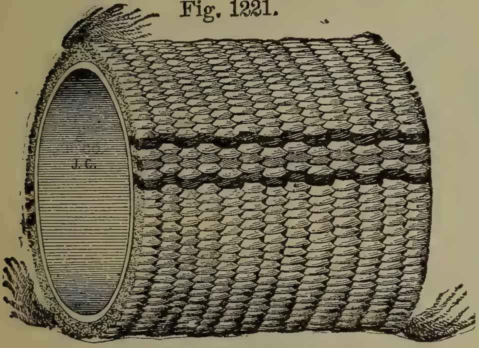


Fig. 1222.

"SIX LINE" BRAND.

For Fire Departments or other high pressure service.

This is a very heavy and strong single body circular Woven Hose, capable of standing a water pressure of 400 lbs. to the square inch.

1½ inch internal diameter,	.	50 cents per foot.
2 “ “ “	.	60 “
2½ ‘ “ “	.	75 “

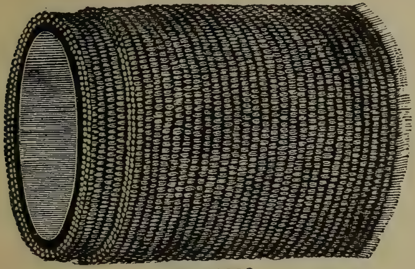


Fig. 1223.

"A I" BRAND.

This brand is a medium weight Woven Jacket Hose, and as the name implies, is composed of two separate and distinct bodies of cotton, the outer one being pulled over the inner one. The Hose thus jacketed is rubber lined in the best manner, and is guaranteed to stand a water pressure of 400 lbs. to the square inch. It is woven with a perfect tension, and will not contract under pressure.

2 inch internal diameter,	.	65 cents per foot.
2½ “ “ “	.	80 “

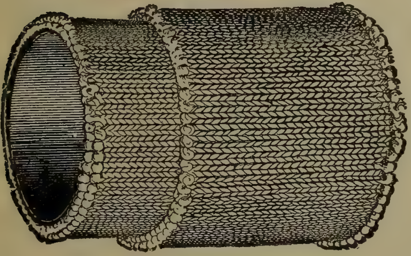


Fig. 1224.

"PALMA" BRAND.

This brand is a medium weight Knit Jacket Hose, and will safely stand a water pressure of 400 pounds to the square inch.

The materials used are of prime grade, and the Hose is suitable for steam fire engines, or other service where a strong Hose is desired.

1½ inch internal diameter,	60 cents per foot.
2 “ “ “	70 “
2½ “ “ “	90 “

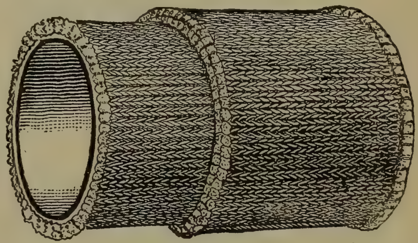


Fig. 1225.

"DUPLEX" BRAND.

A full weight Knit Jacket Hose, rubber lined in the best manner, and will stand a water pressure of 500 lbs. to the square inch. It is guaranteed first-class in all respects, and is adapted to the use of steam fire engines and other high pressure service.

1½ inch internal diameter,	.	$0.60 per foot.
2 “ “ “	.	.70 “
2½ “ “ “	.	.90 “
3 “ “ “	.	1.10 “
3½ “ “ “	.	1.30 “

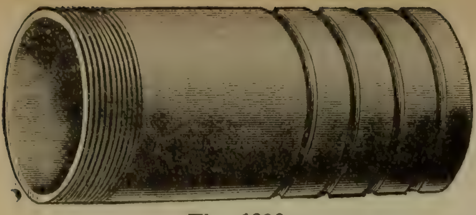


Fig. 1226.

IRON NIPPLES.

SCORED IRON NIPPLES FOR STEAM AND SUCTION HOSE.

Internal Diameter.	Length.	Each, Plain.	Each, Galvanized
¾ in.	5 in.	$0.25	$0.30
1 "	6 "	.30	.38
1¼ "	6 "	.35	.44
1½ "	6 "	.40	.50

Internal Diam.	Length.	Each, Plain.	Each, Galv.	Internal Diam.	Length.	Each, Plain.	Each, Galv.	Internal Diam.	Length.	Each, Plain.	Each, Galv.
2 in.	8 in.	$0.60	$0.75	4 in.	10 in.	$2.25	$2.80	7 in.	10 in.	$4.50	$5.62
2½ "	8 "	1.00	1.25	4½ "	10 "	2.75	3.44	8 "	12 "	6.00	7.50
3 "	10 "	1.25	1.57	5 "	10 "	3.00	3.75	10 "	12 "	10.00	12.50
3½ "	10 "	1.50	1.88	6 "	10 "	4.00	5.00	12 "	15 "	15.00	18.75

For prices of Cast-Iron Flanges for Suctions, see page 376.

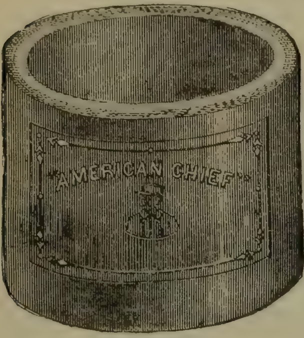


Fig. 1227.

"AMERICAN CHIEF" FIRE HOSE.

A new brand of Fire Hose. The Hose weighs only fifty pounds to the section coupled, is as soft as a glove and will reel closer than cotton hose. As a matter of fact, a section of fifty feet, with the couplings on, can be coiled within a circle of twenty-four inches. A section of this hose will stand a pressure of 450 pounds to the square inch, and at working pressure the elongation would not exceed six inches.

2½ inch, 4-ply, with 5-ply capped ends, per foot, coupled	$1.00
2 inch, 4-ply, with 5 ply capped ends, per foot, coupled	.80

"DIAMOND" FIRE HOSE, FOR STEAM FIRE ENGINES.

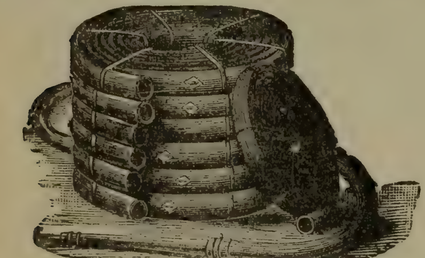


Fig. 1228.

The Rubber used in the manufacture of this brand of Hose is the very best grade of Fine Para.

The Duck used is made from selected Long Fibre Cotton.

We guarantee the 4-ply to stand 400 pounds to the square inch.

	4-Ply with 5-Ply Capped Ends. 400 lbs Water Pressure. Per Foot.	5-Ply with 6-Ply Capped Ends. 500 lbs. Water Pressure. Per Foot.	6-Ply with 7-Ply Capped Ends. 600 lbs. Water Pressure. Per Foot.
1½ inch	$0.75	$0.94	$1.13
2 "	1.00	1.25	1.50
2¼ "	1.12	1.40	1.68
2½ "	1.25	1.56	1.88

In ordering Hose with couplings, a sample coupling should be sent us, that we may get the correct thread.

"MUTUAL" UNDERWRITERS' LINEN FIRE HOSE.

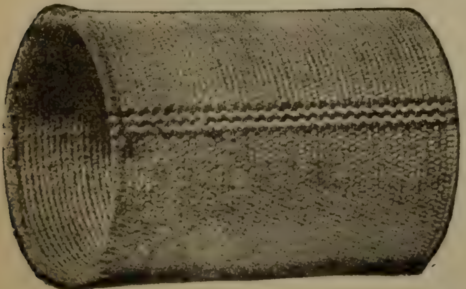


Fig. 1229.

To conform with the requirements of the Associated Factory Mutual Insurance Companies, for their fire hose protection.

Guaranteed to stand a water pressure of at least 400 lbs. per square inch, and to be practically water-tight.

UNLINED AND SEAMLESS.

1 inch diameter, per foot . .	$0.27
1¼ " " " . .	.30
1½ " " " . .	.33
2 " " " . .	.42
2¼ " " " . .	.46
2½ " " " . .	.50

SUCTION HOSE.

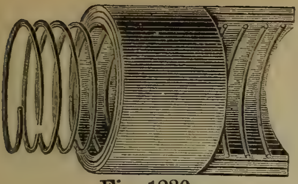


Fig. 1230.

Int. Diam.	On Spiral. Tinned Iron Wire. Per ft.	On Spiral Brass Wire. Per ft.
¾ inch,	$0.70	$0.77
1 "	.90	1.00
1¼ "	1.15	1.25
1½ "	1.50	1.65
1¾ "	1.90	2.10
2 "	2.30	2.50

LARGE SUCTION HOSE.

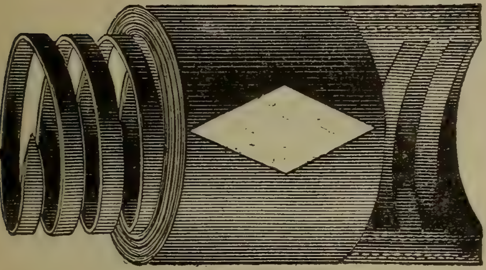


Fig. 1231.

Used for Wrecking and Mining Purposes, etc. On Flat Galvanized Iron Spiral.

Int. Diam.	Per ft.	Int. Diam.	Per ft.
2½ inch,	$3.10	6½ inch	$10.50
3 "	4.00	7 "	12.00
3½ "	4.90	7½ "	13.50
4 "	5.80	8 "	15.00
4½ "	6.70	9 "	17.50
5 "	7.60	10 "	20.00
5½ "	8.50	12 "	25.00
6 "	9.50		

"SMOOTH BORE" SUCTION HOSE.

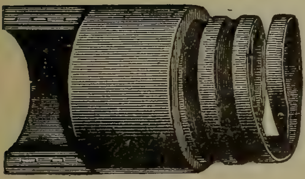


Fig. 1232.

Int. Diam.	Per ft.	Int. Diam.	Per ft.	Int. Diam.	Per ft.
2 inch,	$2.60	5 inch,	$8.50	8 inch,	$16.50
2½ "	3.50	5½ "	9.50	9 "	19.50
3 "	4.50	6 "	10.50	10 "	22.50
3½ "	5.50	6½ "	12.00	12 "	27.50
4 "	6.50	7 "	13.50		
4½ "	7 50	7½ "	15.00		

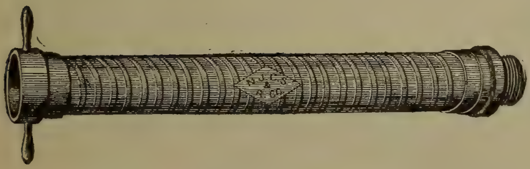
EXTRA HEAVY SUCTIONS

For Wrecking and Dredging Purposes, Sand Pumps, Etc.

SMOOTH BORE, CORRUGATED SURFACE.

Int. Diam.	Per ft.	Int. Diam.	Per ft.	Int. Diam.	Per. ft.
10 inch,	$22.50	15 inch,	$35.00	18 inch,	$42.50
12 "	27.50	16 "	37.50		
14 "	32.50	17 "	40.00		

STEEL-CLAD SUCTIONS.



For Fire Engines, Mining Service, etc. The Hose is wound with flat steel wire, which protects the surface from abrasion.

Fig. 1233.

Int. Diam.	Per ft.	Int. Diam.	Per ft.	Int. Diam.	Per ft.	Int. Diam	Per ft.
2 inch,	$2.60	4 inch,	$6.50	6 inch,	$10.50	8 inch,	$16.50
2½ "	3.50	4½ "	7.50	6½ "	12.00	9 "	19.50
3 "	4.50	5 "	8.50	7 "	13.50	10 "	22.50
3½ "	5.50	5½ "	9.50	7½ "	15.00	12 "	27.50

HARD RUBBER SUCTION HOSE.

Int. Diam.	Per ft.	Int. Diam.	Per ft.	Int. Diam.	Per ft.
¾ inch,	$0.65	1½ inch,	$1.13	2¼ inch,	$1.69
1 "	.75	1¾ "	1.31	2½ "	1.88
1¼ "	.93	2 "	1.50		

SEWED MINING AND TANK HOSE.

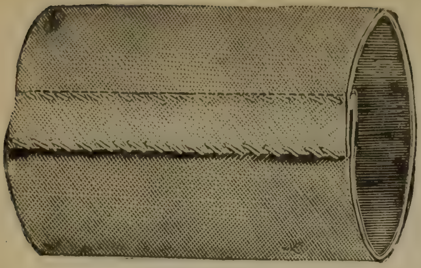


Fig. 1234.

For conducting large volumes of water long distances over unequal ground, for draining purposes and hydraulic mining. Made from the BEST QUALITY COTTON DUCK, TRIPLE STITCHED.

WITHOUT RUBBER LINING.

4 inch Tank Hose	35 cents per foot
5 “ “	40 “ “
6 “ “	50 “ “
7 “ “	55 “ “
8 “ “	60 “ “
9 “ “	70 “ “
10 “ “	80 “ “

HYDRAULIC MINING SEWED HOSE.

Made from Extra Heavy Cotton Duck.

6 inch Hydraulic Mining Hose	60 cents per foot
7 “ “	70 “ “
8 “ “	80 “ “
9 “ “	90 “ “
10 “ “	$1.00 “ “

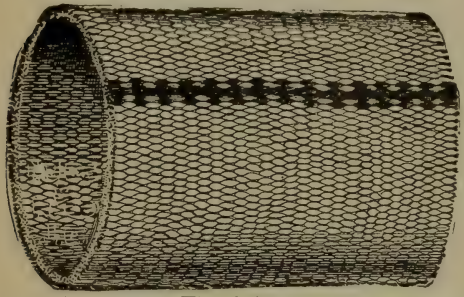


Fig. 1235.

“CONTINENTAL” LINEN HOSE

The “Continental” is a reliable hose for factory fire protection, and will stand a water pressure of 400 pounds to the square inch.

UNLINED AND SEAMLESS.

1 in.,	15 cts. per ft.	2¼ in.,	26 cts. per ft.
1¼ “	18 “ “	2½ “	28 “ “
1½ “	20 “ “	3 “	40 “ “
2 “	24 “ “		

PATENT EXPANDED RING SCREW COUPLINGS.

This style of coupling gives an unobstructed water way, thus overcoming the friction incident to the old style shank couplings. They cost only a trifle more than the old style couplings, when expense of clamps or bands are considered, and present a much neater appearance. Beside this, it makes far better work in coupling all kinds of fabric hose, and no other style of coupling should be used. When special thread is used, sample should always be sent.

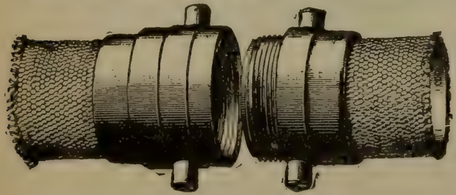


Fig. 1236.

¾ inch, per set		$0.25 net
1 “ “		.50 “
1¼ “ “		1.00 “
1½ “ “		1.25 “
2 “ “	(medium)	1.50 “
2 “ “	(heavy)	2.00 “
2½ “ “	(light)	2.00 “
2½ “ “	(medium)	2.25 “
2½ “ “	(heavy)	2.50 “

BREWERS' HOSE COUPLINGS.

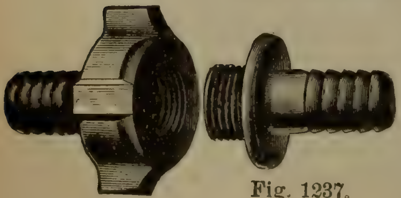


Fig. 1237.

½ inch	$1.00 each
¾ “	1.00 “
1 “	1.50 “
1¼ “	1.80 “
1½ “	2.20 “
2 “	2.80 “
2½ “	4.00 “
3 “	6.50 “

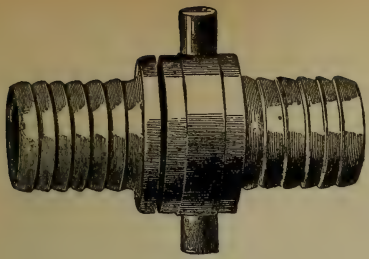


Fig. 1238.

HOSE COUPLINGS.

FOR RUBBER HOSE.

Size	½	¾	⅞	1	1¼	1½
Per doz.	$3.00	3.00	4.50	4.50	10.00	14.00

Size	1¾	2	2¼	2½	3
Per doz.	$20.00	30.00	48.00	48.00	76.00

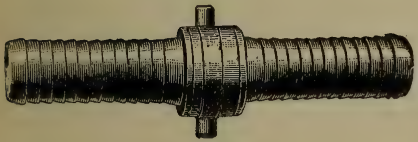


Fig. 1239.

STEAM HOSE COUPLINGS.

Size	¾	1	1¼	1½	2	2½
Per doz.	$16.00	18.00	25.00	33.00	42.00	75.00

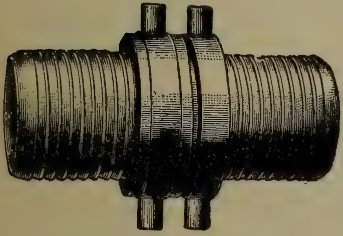


Fig. 1240.

SUCTION HOSE COUPLINGS.

Size	2	2½	3	3½	4	4½
Each	$4.00	5.25	7.50	9.50	12.50	16.00

Size	5	5½	6	6½	7	8
Each	$20.00	24.00	28.00	40.00	54.00	80.00

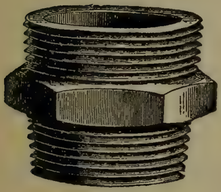


Fig. 1241.

HOSE NIPPLES.

Size.	½	¾	1	1¼	1½	2	2½	3	3½	4
Each	$0.30	.30	.45	.75	.85	1.20	2.40	3.40	4.20	6.50

REVOLVING LAWN SPRINKLERS.

No. 1.	Four Arm, Nickel-plated	Each, $5.00
No. 2.	Eight " "	" 6.00

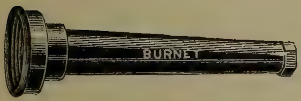


Fig. 1242.

HOSE PIPES—PLAIN.

Size	¾	1	1¼	1½	2	2½	2½
Length, inches	8	9	10	10½	11	12	20
Per doz.	$7.00	9.00	15.00	18.00	30.00	48.00	78.00

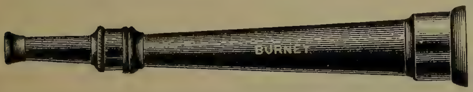


Fig. 1243.

HOSE PIPES—SCREW TIP.

Size	¾	1	1¼	1½	2	2½
Length, ins.	8	10	11	12	15	15
Per doz.	$8.00	10.00	18.00	25.00	39.00	75.00

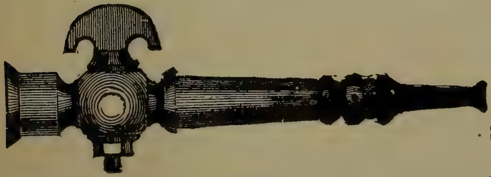


Fig. 1244.

HOSE PIPES.

COCK ON LARGE END.

Size	¾	¾	1	1¼	1½	2
Length, ins.	6	8	10	11	12	20
Per doz.	$11.00	13.00	20.00	36.00	55.00	110.00

THE "GEM" HOSE PIPES.

Throws either solid stream or spray.

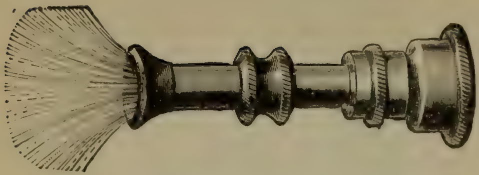


Fig. 1245.

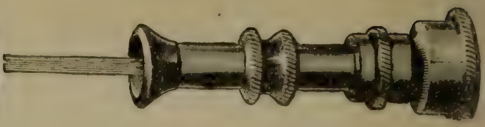


Fig. 1246.

Size, ¾ inch, per dozen	$10.00
" 1 " "	12.00

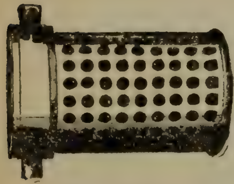


Fig. 1247.

SUCTION STRAINERS.

Brass, size	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Each . . .		$1.30	1.50	2.00	4.00	5.00	9.00	16.00	20.00	30.00	40.00
Iron Plain, each .	$0.30	.40	.50	.75	1.00	1.50	2.00	3.00	3.75	4.75	6.50
Iron Galv'd, each .	.40	.50	.75	1.00	1.50	2.00	3.00	4.50	6.00	7.00	10.00

FLEXIBLE RUBBER PLAY PIPES.

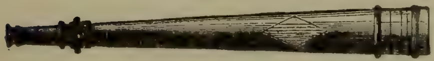


Fig. 1248.

Fig. 1248. Rubber Mounted, complete, plain Butts, each, $10.00

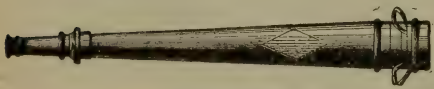


Fig. 1249.

Fig. 1249. Rubber Mounted, complete, Metal Handle, ea., $13 50.

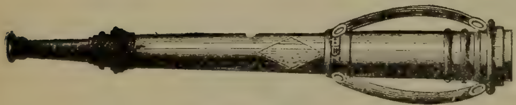


Fig. 1250.

Fig. 1250. Rubber Mounted, complete, Leather Handles, each, $15.00.

2½-inch Rubber Play Pipe Tubes, each, $5.00.

UNDERWRITERS' PLAY PIPE, WOUND AND PAINTED, WITH HANDLES.

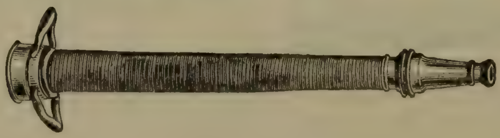


Fig. 1251.

Size, inches	2	2½	2½	2½
Length, inches	20	24	30	36
Wound and Painted, each	$9.00	11.00	12.00	15.00
Plain Brass, each	7.50	9.50	11.00	13.50
Wound and Painted, without Handles, each .	6.50	8.50	10.00	12.50

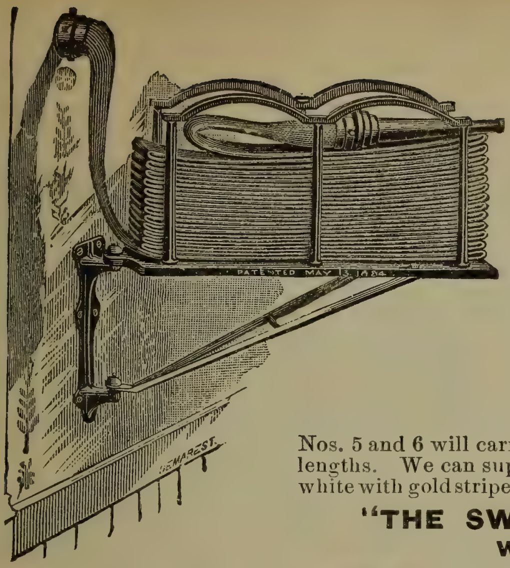


Fig. 1252.

THE "SWINGING HOSE RACK."

Japanned Red.

FOR "UNLINED LINEN" HOSE.

No.	Size of Hose.	Full Capacity.	Price
0,	for 1½ or 2 inch,	50 feet,	$5.00
00,	" 2½ "	50 "	5.00
1,	" 1½ or 2 "	100 "	6.00
2,	" 2½ "	100 "	6.00
3,	" 1½ or 2 "	150 "	7.00
4,	" 2½ "	150 "	7.00

FOR "RUBBER LINED LINEN" OR "MILL" HOSE.

No.	Size of Hose.	Full Capacity.	Price.
3,	for 1½ or 2 inch,	50 feet,	$7.00
4,	" 2½ "	50 "	7.00
5,	" 1½ or 2 "	100 "	7.50
6,	" 2½ "	100 "	8.00

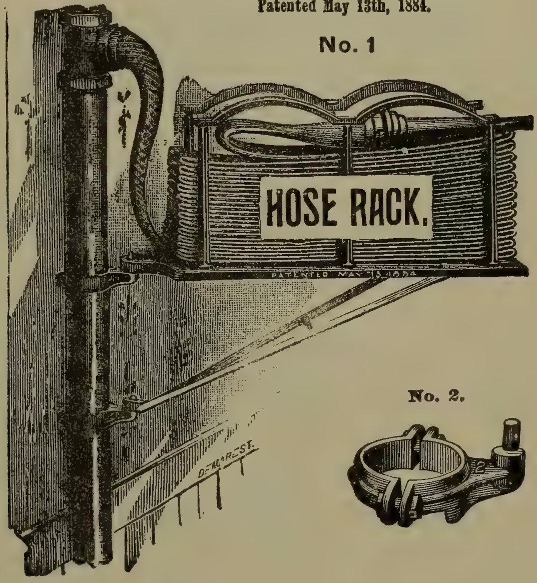
Nos. 5 and 6 will carry Heavy Hose of almost any make in 50 feet lengths. We can supply any of the above sizes bronzed in gold, white with gold stripe, nickel or brass plated, or solid polished brass.

"THE SWINGING HOSE RACK."

WITH PIPE CLAMPS.

Patented May 13th, 1884.

No. 1



No. 2.

Fig. 1253.

Price List "Rack" with "Pipe Clamps."
All Racks Japanned "Red" unless otherw se ordered.

Style of Finish.		Nos. 00 & 0.	Nos. 1 & 2.	Nos. 3 & 4.	No. 5.	No. 6.
Japanned "Red"	Each,	$5.40	$6.40	$7.40	$7.90	$8.40
" "Gold"	"	6.00	7.25	8.25	9.25	9.25
" White with Gold Stripe .	"	6.00	7.25	8.25	9.25	9.25
Bronzed in Gold	"	5.40	6.40	7.40	7.90	8.40
Nickel-Plated, Polished . . .	"	9.00	10.50	12.00	14.00	14.50
Brass " "	"	9.00	10.50	12.00	14.00	14.50
Solid Brass, "	"	15.00	18.00	21.00	26.00	26.00

Notice.—When you order "Racks" with ' Pipe Clamps" be sure and give size of pipe they are to fit. If not standard size pipe you must give Outside diameter.

Also to avoid mistakes and to get the proper "Rack" when you order give Size, Kind and Length of Hose. For capacity see top of this page.

THE "PERFECT" AUTOMATIC HOSE REEL.

Patented July 6th, 1897.

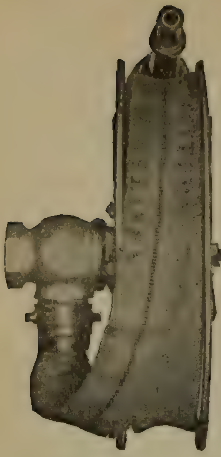


Fig. 1254.

This Reel is unquestionably the best device that has ever been made for holding hose. It is stronger, more ornamental, and occupies less space than any of the other devices. The Reel being attached to the stem of the valve causes the unwinding of the hose to open the valve and turn on the water supply gradually, thus filling the hose as rapidly as it is unreeled, and preventing it from becoming kinked or twisted. With high water pressure and favorable conditions water has been secured through one hundred feet of Unlined Linen Hose on one of these Reels in thirteen seconds, and with very low water pressure and under very unfavorable conditions in twenty-five seconds. Water supply can also be shut off quicker with one of these Reels than with any other. This is a very important feature, as it limits water damage to a minimum in case of fire. We make them in two styles, known respectively as the "Perpendicular" and the "Forty-five Degree."

As these reels do not attach to wall, the expense of "putting up" is saved. In our modern buildings this is quite an item.

Valves for these Reels should be placed at height of 6½ feet from the floor.

BRASS NICKEL-PLATED VALVE, WITH ALUMINUM FINISH REEL OR RACK.

Capacity, Number of feet	25	50	75	100	125	150	200
Size, 1 inch	$10.50	11.00	11.50	12.50	13.00	13.50	14.00
" 1½ "	11.50	12.00	13.00	14.00	14.50	15.25	15.75
" 2 "	14.00	14.50	14.75	15.50	16.25	16.50	17.00
" 2½ "	16.50	17.00	17.50	18.25	19.00	19.50	20.00

BRASS NICKEL-PLATED VALVE, WITH REEL OR RACK NICKEL-PLATED ON IRON

Size, 1 inch	$14.00	14.50	15.00	15.50	18.00	18 50	21.50
" 1½ "	16.00	16.50	17.00	17.25	19.75	20.00	23.00
" 2 "	17 50	18.25	18.75	19.25	21.50	22.00	25.00
" 2½ "	20.75	21.25	21.50	22.00	24.25	24.50	27.75

POLISHED BRASS VALVE, WITH POLISHED BRASS REEL OR RACK.

Size, 1 inch	$15.00	15.75	18.50	19.25	23.75	26.75	30.50
" 1½ "	16.00	17.50	20.25	21.00	25.50	26.75	30.50
" 2 "	17.75	19.00	22.00	22.50	27.00	28.50	32.25
" 2½ "	21.00	22.00	24.75	25.25	29.75	31.25	35.00

BRASS NICKEL-PLATED VALVE, WITH BRASS REEL OR RACK.

Size, 1 inch	$15.50	17 00	19.50	20.75	24.75	26.50	29.00
" 1½ "	17.25	18.75	21.00	22.50	26.50	28.00	30.75
" 2 "	19.00	20.00	21.75	24.25	28 25	30.00	32.00
" 2½ "	21.75	23.00	24.50	27.00	31.00	32 00	36.00

Price of 45° Reel is $1.00 each, net, in addition to above.

Above prices do not include Hose.

MODERN TWO-WHEELED HOSE CARTS.

FINE COACH FINISH AND BRASS TRIMMINGS.

FRAMES OF WROUGHT IRON AND STEEL.

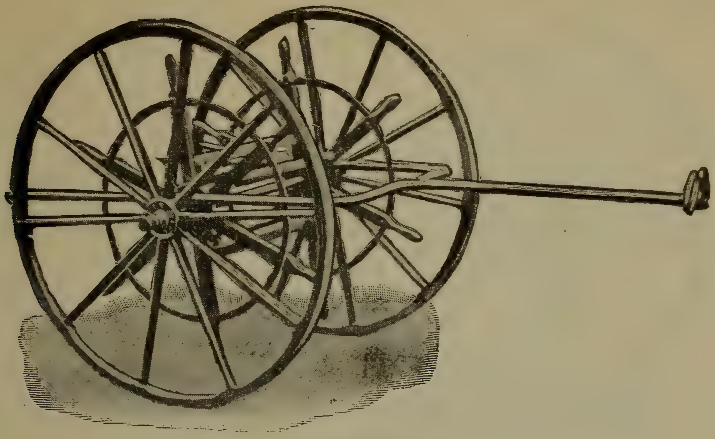


Fig. 1255

NO. 00. TUBULAR STEEL FRAME HOSE CART.

Weight, 80 lbs.; wheels, 40 inches in diameter; width outside of hubs, 40 inches; capacity, 150 feet 2½-inch rubber hose, 250 feet rubber-lined cotton hose. It is constructed upon an entirely original principle, with wrought frame and wood reel. Width can be narrower if desired. Price, $25.

No. 0 Cart (not illustrated) has all iron reel and continuous frame, otherwise same as No. 00. $40.

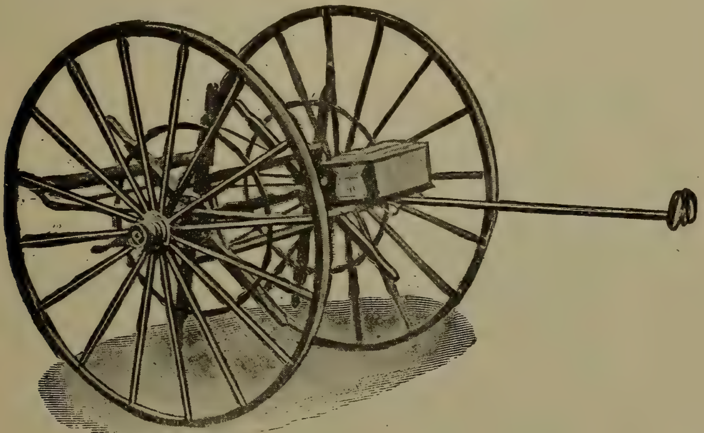


Fig. 1256.

NO. 1 1-2. TUBULAR STEEL FRAME HOSE CART.

Illustration represents one of the most popular styles of hose cart. Wrought frame; slatted reel; tool box in front and friction roller behind; also hooks for rope. Designed especially for lumber yards, planing mills, factories, etc. Owing to its lightness and ease of running, it is also used by fire companies. Capacity, 500 feet 2½-inch unlined linen hose; 400 feet 2-½inch rubber-lined hose; 200 feet 2½-inch rubber hose. Wheels, 4 feet diameter; weight, 125 lbs.; width, 48 inches. Can be furnished any width narrower than named without extra cost. Price, $50.

No. 1¾. Same style cart built with 4 ft. 4 in. wheels and for 500 feet 2½-inch mill hose. Price, $75. Weight, 145 lbs.

No. 1 Cart (not illustrated) same as No. 1½, except with all iron reel. $60.

MODERN TWO-WHEEL HOSE CARTS.

FINE COACH FINISH AND BRASS TRIMMINGS. FRAMES OF WROUGHT IRON AND STEEL.

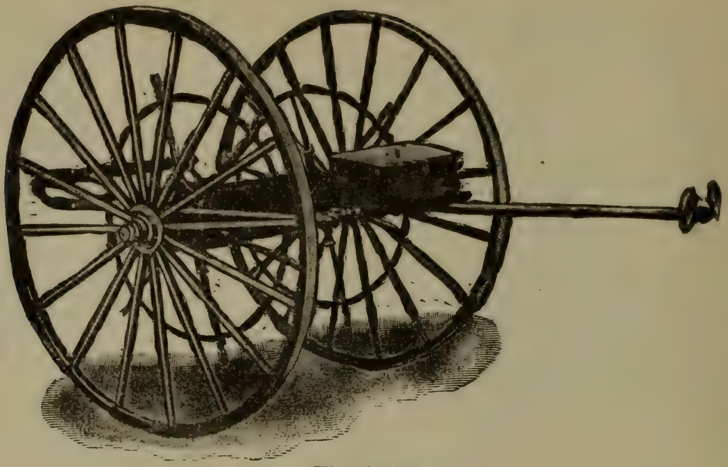


Fig. 1257.

NO. 2. TUBULAR STEEL FRAME HOSE CART.

The illustration represents a larger size than No. 1½ hose cart. Wrought frame; slatted reel; tool box in front and friction roller behind; also hooks for rope. Owing to its lightness and ease of running, it is also used by fire companies. Weight, 310 lbs.; capacity, 600 feet 2½-inch rubber-lined hose; 800 feet 2½-inch unlined linen hose; 400 feet 2½-inch rubber hose; width, 48 inches; wheels, 5 feet diameter; tires, 1⅝. Hub caps finished brass. Price, $100.

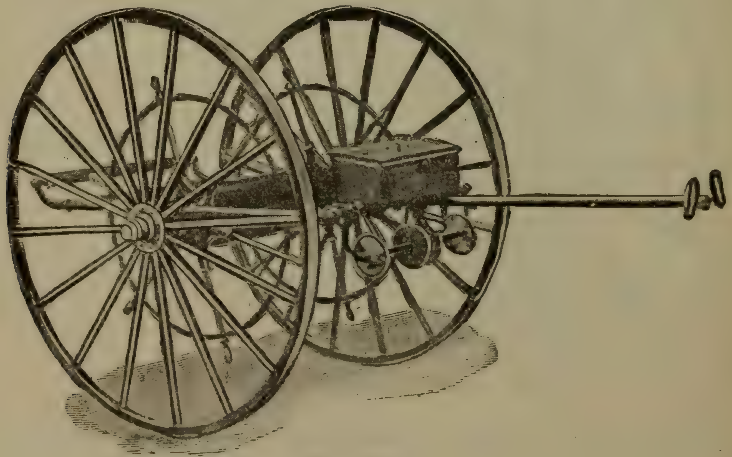


Fig. 1258.

NO 2 1-2. TUBULAR STEEL FRAME HOSE CART.

This cart is similar in construction to the No. 2, with 5-foot wheels, 1⅝ tires, 1 inch frame, 1½ inch axles, and with a brass head rope reel and 60 feet manila rope. Capacity is the same as No. 2 cart. Price, $115. Weight, 380 lbs.

No. 2½ F. D. (not illustrated) is arranged for fire department use, with axe and crowbar on frames and place on tongue for one or two hose pipes Price, $125. Weight, 400 lbs.

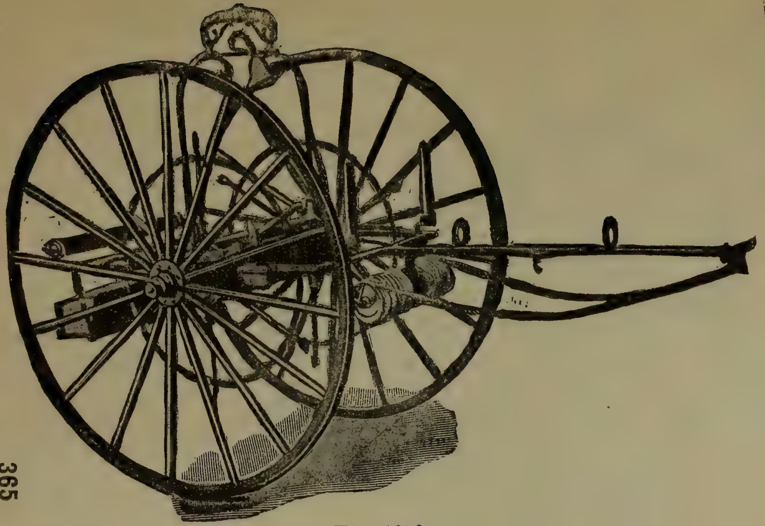


Fig. 1259.

NO. 4. WROUGHT FRAME AND ARCH HOSE CART.

Wrought frame and arch hose cart, hand reeling, open reel heads; with arch; with cast brass name plate of fire company if desired, and bell metal chime jingle bell, wheels $5\frac{1}{2}$ feet diam., "A" quality, iron hubs, hub caps brass, nickel-plated if desired; tires $1\frac{5}{8}$ inches wide; reel capacity 600 feet $2\frac{1}{2}$-inch rubber-lined hose, 800 feet $2\frac{1}{2}$ inch unlined linen hose, 400 feet $2\frac{1}{2}$-inch rubber hose; slatted reel drum; balanced wrought iron frame, name of fire company on scroll; hard wood tool box in rear part with automatic lock; pipe holders, one set of straps on tongue; friction roller behind; axle of best material; $1\frac{1}{2}$ in. diameter; wrought iron tongue with hold back handles, crab and prop-leg; rope reel with brass heads and painted stop-pawl; 60 feet fine manila rope, leathered, with buckles; one pick-head axe in spring socket; one crowbar in spring socket: painting, rich ornamentation on wheels, frame and reel heads to suit purchaser. Price, $200. Weight, 475 lbs.

Extra Large No. 4, with 6 foot wheels and 2-inch tires and capacity for 1,000 feet $2\frac{1}{2}$-inch hose. $235.

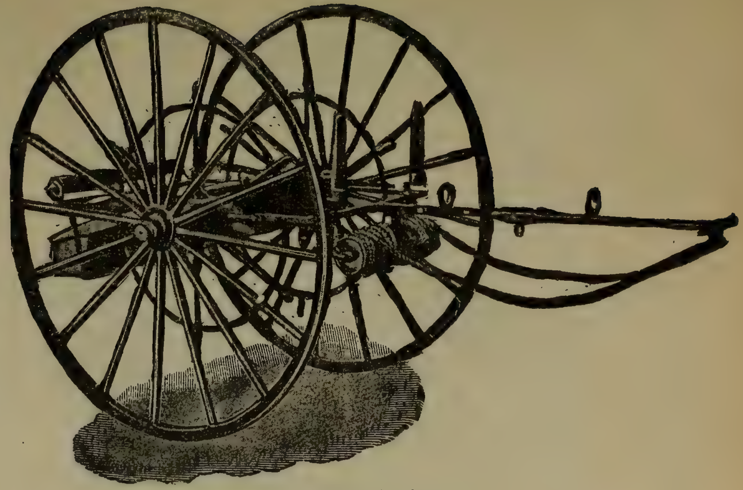


Fig. 1260.

NO. 3. SOLID FORGED FRAME HOSE CART.

Solid forged frame hose cart, hand reeling, open reel heads; weight 450 lbs.; wheels 5 feet diam., "A" quality; iron hubs, hub caps brass, nickel-plated if desired; tires $1\frac{5}{8}$-inches wide; reel capacity 900 feet $1\frac{1}{2}$-inch rubber-lined hose, 800 feet 2-inch rubber-lined hose, 600 feet $2\frac{1}{2}$-inch rubber-lined hose, 800 feet $2\frac{1}{2}$-inch unlined linen hose, 500 feet 2-inch rubber hose. 400 feet $2\frac{1}{2}$-inch rubber hose; slatted wood hose reel drum; balanced wrought iron frame; name of fire company on box; hard wood tool box supported behind, with automatic lock; pipe holders. one set of straps on tongue; friction roller behind; axle of best material and proportionate strength; wrought iron tongue with hold-back handles, crab and prop-leg; rope reel with nickel-plated heads and painted stop-pawl; 60 feet fine manila rope, leathered, with buckles: one pick-head axe in spring socket; one crowbar in spring socket; painted English vermillion with rich ornamentation. Cones as shown for trumpets, if desired; or one pair holders for lanterns can be put on in place af the trumpet holders, if ordered. Price, $140.

No. 3 Extra. A larger cart of same style, with 6-ft. wheels, and capacity for 1.000 feet of $2\frac{1}{2}$-inch hose. Price, $185.

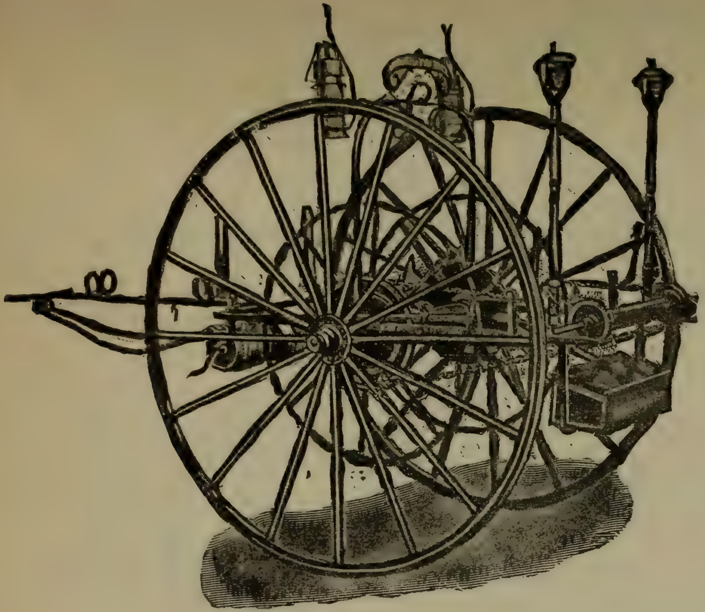


Fig. 1261.

NO. 5 1-2. FANCY ARCH CHAIN-WINDING HOSE CART.

Wrought frame fancy arch hose cart, chain-winding, open reel heads: with arch; with bell; with lantern holders; wheels, 5½ feet diameter, "A" quality; iron hubs, hub caps brass, nickel-plated if desired; tires, 1⅜ inches wide; reel capacity 800 feet 2½-inch unlined linen hose, 600 feet 2½-inch rubber-lined hose, 400 feet 2½-inch rubber hose; reel operated by winch handles; iron reel drum, balanced wrought-iron frame, with extension to tighten chain, name of fire company on scroll (furnished only when so ordered); hard wood tool box in rear, with automatic lock; two wood cones for trumpet holders, as shown in cut, and two straps on tongue for play pipes, friction roller with brass nuts; axle of best material and proportionate strength; wrought iron tongue with hold-back handles, crab and prop-leg; rope reel with brass heads and painted stop-pawl; 60 feet fine manila rope, leathered, with buckles; one pick-head axe in spring socket; one crow-bar in spring socket; also one pair brass or nickel-plated swinging torches mounted on oak handles carried on rear; cart painted in rich carmine and tastefully ornamented. Price, $275 Price with one pair brass lanterns $2 5. Weight, 525 lbs.

Extra No. 5½ Cart, built for 1,000 feet of 2½-inch hose and with 6-foot wheels, $325.

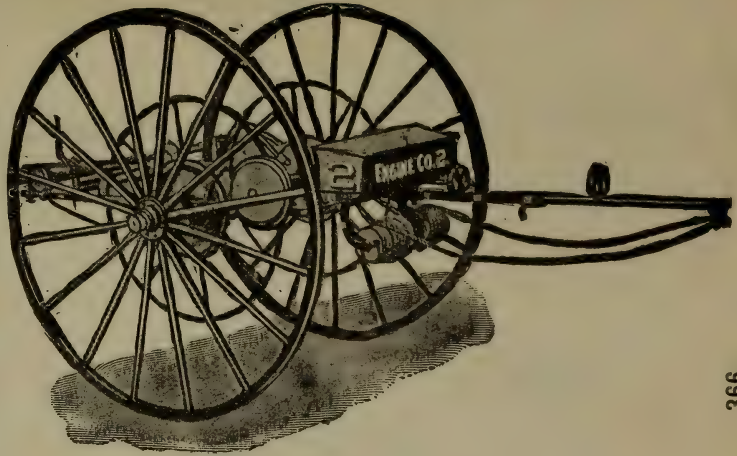


Fig. 1262.

NO. 5. CHAIN-WINDING SERVICE HOSE CART.

Wrought frame fancy hose cart, chain winding, open reel heads; wheels 5½ feet diameter, "A" quality; iron hubs, hub cap brass (nickel-plated if desired); tires 1½ inches wide, reel capacity, 800 feet 2½-inch unlined linen hose, 600 feet 2½-inch rubber-lined hose, 400 feet 2½-inch rubber hose; reel operated by winch handles; iron reel drum; balanced wrought iron frame with extension to tighten chain; hardwood tool box in front, with automatic lock; 10-inch brass gong, struck by revolution of wheel; two straps on tongue for play pipes; friction roller with brass nuts; axle of best material and proportionate strength; wrought iron tongue with hold-back handles, crab and prop-leg; rope reel with brass heads and painted stop-pawl; 60 feet fine manila rope, leathered, with buckles; one pick-head axe in spring socket; one crowbar in spring socket; cart painted in rich carmine and tastefully ornamented with name of fire company on tool box. $225. Price with lantern holders on end of tool box and one pair of brass lanterns, $240. Weight, 495 lbs.

Extra No. 5 Cart, built for 1,000 feet of 2½-inch hose and with 6-foot wheels. Price, $275.

MALLEABLE IRON, GAS, WATER AND STEAM FITTINGS.

Adopted by the Manufacturers' Association.

CLASS A—PRICE, 30 CENTS PER POUND.

Elbows, ⅛, ¼ x ⅛, ⅜ x ⅛.
Tees, ⅛, ⅛ x ¼, ¼ x ⅛, ⅜ x ⅛.

R. and L. Couplings, ⅛ in.
Couplings, R. H., ⅛ in.

Ells, R. and L. ¼ and ⅜ in.
R. and L. Return Bends, ⅜ and ½ in.

CLASS B—PRICE, 20 CENTS PER POUND.

Elbows, ⅜, ¼, ⅜ x ¼, ½ x ¼ in.
Tees, ¼, ⅜, ¼ x ⅜, ⅜ x ¼ x ¼, ⅜ x ¼, ⅜ x ¼ x ⅜.
Elbows, Side Outlets, ½ in. and smaller.
Tees, Side Outlets, ½ in. and smaller.
Street Ells, ¼ and ⅜ in.
Crosses, ¼, ⅜, ½ in.
Reducing Crosses, 1 in. and smaller.

Drop Ells and Tees, ½ in. and smaller.
Caps, ¼ and ⅜ in.
Lock Nuts, ¼, ⅜ and ½ in.
Reducing Couplings, ⅜ x ¼ to ¾ x ⅜, inclusive.
Extension Pieces, ⅜ and ½ in.
R. and L. Couplings, ¼ and ⅜ in.
R. Hand Couplings, ¼ and ⅜ in.

R. and L Elbows, ½ in.
Waste Nuts, ¾ in. and smaller.
Chandelier Hooks, all sizes.
Return Bends, ⅜ and ½ in.
Return Bends, R. and L., ¾, 1 in.
Wall Plates, all sizes.
45° Ells, ½ in. and smaller.
Y's, ½, ¾ in.

CLASS C—PRICE, 16 CENTS PER POUND.

Elbows, ½ and ½ x ⅜.
Elbows, R. and L., ¾, 1 in.
Tees, ½ and ½ in., reducing.
Elbows, Side Outlets, ¾ in. and larger.
Tees, Side Outlets, ¾ in. and larger.
Street Ells, ½, ¾, ¾ x ½, 1 x ¾ in.

Crosses, 1 and ¾ in., straight.
Drop Ells, ¾ in. and larger.
Drop Tees, ¾ in. and larger.
Caps, ½, ¾ and 1 in.
Lock Nuts, ¾, 1, 1¼ in.
Reducing Couplings, ¾ x ½ to 1 in., inclusive.
R. and L. Couplings, ½ and ¾ in.

R. H. Couplings, ½, ¾ in.
Extension Pieces, ¾ in. and larger.
Waste Nuts, 1 in. and larger.
Return Bends, ¾, 1 in.
45° Ells, ¾ to 2 in. inclusive.
Y's, 1 in. and larger.
Return Bends, R. and L., 1¼ in. and larger.

CLASS D—PRICE, 13 CENTS PER POUND.

Elbows and Tees, ¾ and 1 in.
Crosses, 1¼ in and larger.
Street Ells, 1 in. and larger.
Caps, 1¼ in. and larger.

Lock Nuts, 1½ in. and larger.
Reducing Couplings, 1¼ in. and larger.
R. H. Couplings, 1 and 1¼ in.

Return Bends, 1¼ in. and larger.
R. and L. Couplings, 1 in. and larger.
45° Elbows, 2½ in. and larger.

Such Fittings as have smaller outlets than ¾ inch will be classed "C."

CLASS E—PRICE, 11 CENTS PER POUND.

Elbows and Tees, 1¼ in. and larger.

Right Hand Couplings, 1½, 2 in.

Such Fittings in this class that have outlets smaller than 1 inch to be classed "D."

The run of Tees (Bullheads) gives the size for the purpose of classification, and the outlet being larger does not change it. Return Bends, reduced, Return Bends, spread, Elbows tapped on pitch, 15 per cent. added.

PRICE LIST.

CLASS	A	B	C	D	E
Price, per pound, Black	30 cents.	20 cents.	16 cents.	13 cents.	11 cents.
Price, " " Galvanized	40 cents.	27 cents.	23 cents.	20 cents.	18 cents.

STANDARD LIST OF

GALVANIZED MALLEABLE FITTINGS.

ELBOWS ⅜, ½, ½ x ⅜, ¾, ¾ x ½, 1, 1 x ¾, 1¼, 1¼ x 1, 1½, 1½ x 1¼, 2, 2 x 1½, 2½, 3, 3½, 4.
STREET ELLS—⅜, ½, ¾, 1, 1¼, 1½, 2.

TEES.

Size.	Size.	Size.	Size.	Size.
⅜ x ⅜ x ⅜	¾ x ¾ x 1	1¼ x 1¼ x ¾	1½ x 1½ x 1	2 x 2 x 1½
½ x ½ x ⅜	1 x ¾ x ¾	1¼ x 1¼ x 1	1½ x 1½ x 1¼	2 x 1½ x 2
½ x ½ x ½	1 x ¾ x 1	1¼ x 1¼ x 1¼	1½ x 1½ x 1½	2 x 2 x 2
½ x ½ x ¾	1 x 1 x ½	1¼ x 1¼ x 1½	1½ x 1½ x 2	2½ x 2½ x 2½
¾ x ½ x ½	1 x 1 x ¾	1¼ x 1¼ x ½	2 x 1½ x 1½	3 x 3 x 3
¾ x ½ x ¾	1 x 1 x 1	1½ x 1¼ x 1¼	2 x 2 x ½	3½ x 3½ x 3½
¾ x ¾ x ⅜	1 x 1 x 1¼	1½ x 1¼ x 1½	2 x 2 x ¾	4 x 4 x 4
¾ x ¾ x ½	1¼ x 1 x 1	1½ x 1½ x ½	2 x 2 x 1	
¾ x ¾ x ¾	1¼ x 1 x 1¼	1½ x 1½ x ¾	2 x 2 x 1¼	

COUPLINGS—Right Hand, ¼, ⅜, ½, ¾, 1, 1¼, 1½ and 2.
" Right and Left, ¼, ⅜, ½, ¾, 1, 1¼ 1½ and 2.
" Reducing, ¾x½, 1x¾, 1¼x1, 1½x1¼, 2x1½.

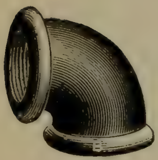
CROSSES—Straight Sizes, ½, ¾, 1, 1¼, 1½ and 2.
LOCKNUTS—⅜, ½, ¾, 1, 1¼, 1½ and 2.
CAPS—⅜, ½, ¾, 1, 1¼, 1½ and 2.

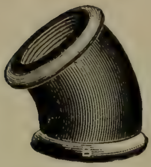
FEMALE DROP ELBOWS AND TEES ½, ¾.

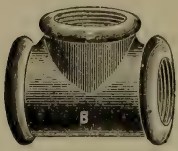
An extra charge of 10 cents per lb. will be added to price of Galvanized Fittings not enumerated in Standard List.

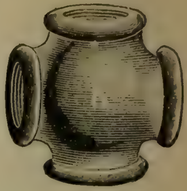
MALLEABLE IRON FITTINGS, BEADED.

PIECE LIST.

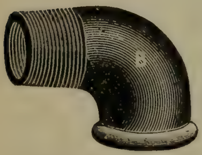

ELBOW.
Fig. 1263.

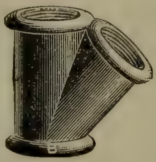

45° ELBOW.
Fig. 1264.

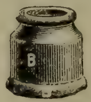

TEE.
Fig. 1265.

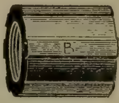

CROSS.
Fig. 1266.

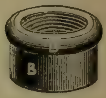
Size, inches.		⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows . .	Each	.04	.04	.05	.06	.08	.13	.17	.24	.35	.70	1.05	1.65	2.30
Elbows, R. and L..	"	..	.05	.08	.09	.10	.16	.20	.28	.45	..	..	..	..
Elbows, 45° .	"	..	.04	.04	.05	.08	.12	.21	.29	.41	..	..	..	..
Tees . . .	"	.04	.05	.06	.07	.10	.15	.19	.28	.45	.85	1.25	2.15	2.40
Crosses . .	"	..	.05	.07	.10	.12	.19	.23	.31	.60	1.10	1.75	2.50	3.15


STREET ELBOW.
Fig. 1267.


Y BRANCH.
Fig. 1268.

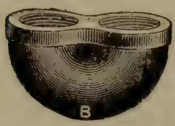

REDUCER.
ig. 1269.

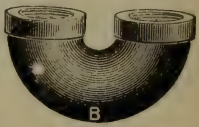

R. & L. COUPLING.
Fig. 1270.


CAP.
Fig. 1271.

Size, inches.		¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Street Elbows,	Each .	.05	.05	.07	.12	.15	.23	.32	.55	..	..	..	..
Y Branches	" .	..	..	.25	.40	.60	.80	1.00	1.70	2.00	3.00	3.50	4.00
Reducers	" .	.03	.04	.05	.07	.09	.11	.14	.25	.50	.70	1.10	1.40
R and L Couplings	" .	.03	.04	.05	.07	.10	.15	.22	.30	..	..	..	..
Caps	" .	.02	.03	.04	.05	.08	.09	.14	.19	.43	.70	1.20	1.55

MALLEABLE RETURN BENDS.

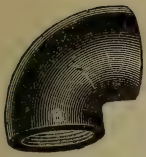

CLOSE.
Fig. 1272.


OPEN.
Fig. 1273.

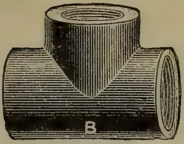
Size, inches.		½	¾	1	1¼	1½	2
Close	Each	.10	.13	.22	.30	.45	.65
Open	"	.11	.25	.33	.40	.50	.90

MALLEABLE IRON FITTINGS, PLAIN.

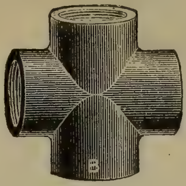
PIECE LIST.



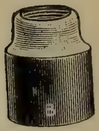
ELBOW.
Fig. 1274.



TEE.
Fig. 1275.

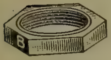


CROSS.
Fig. 1276.

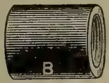


REDUCER.
Fig. 1277.

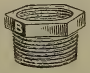
Size,	Inches,	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Elbows,	Each,	$0.04	.04	.05	.06	.08	.13	.17	.24	.35	.70	1.05
Tees,	"	.04	.05	.06	.07	.10	.15	.19	.28	.45	.85	1.25
Crosses,	"	.05	.05	.07	.10	.12	.19	.23	.31	.60	1.10	1.75
Reducers,	"	..	.03	.04	.05	.07	.09	.11	.14	.25	.50	.70



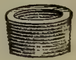
LOCKNUT.
Fig. 1278.



COUPLING.
Fig. 1279.



BUSHING.
Fig. 1280.



FACED BUSHING.
Fig. 1281.

Size,	Inches,	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Four-way Tees,	Each,	..	$0.12	.14	.20	.35	.50	.80	..	..	..
Side Outlet Elbows,	"	..	.08	.10	.18	.30	.45	.60	..	..	..
Locknuts,	"	.01	.02	.03	.04	.05	.07	.08	.10	.21	.28
Couplings	"	.03	.04	.05	.07	.10	.15	.18	.26	..	..
Bushings,	"	..	.04	.04	.05	.06	.07	.09	.14	.21	.30
Bushings, Faced,	"	..	.08	.09	.11	.13	.17	.22	.32	.48	.70
Caps,	"	.02	.03	.04	.05	.08	.09	.14	.19	.43	.70

MALLEABLE UNIONS.

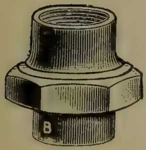
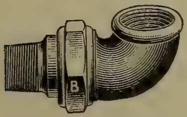


Fig. 1282.

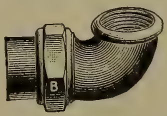
Size,	Inches,	⅛	¼	⅜	½	¾	1	1¼
Plain,	Each,	$0.18	.18	.20	.22	.27	.33	.46
Galvanized,	"	.27	.27	.30	.33	.40	.50	.70

Size,	Inches	1½	2	2½	3	3½	4
Plain,	Each,	$0.58	.75	1.55	2.10	3.65	4.35
Galvanized	"	.90	1.15	2.35	3.15	5.50	6.50

MALLEABLE IRON UNION ELLS.



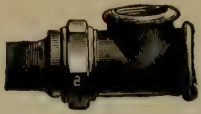
MALE AND FEMALE.
Fig. 1283.

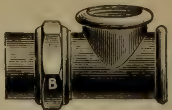


FEMALE.
Fig. 1284.

Size,	Inches,	½	¾	1	1¼	1½	2	2½
Union Ells, Male and Female,	Each,	$0.48	.62	.72	1.05	1.20	1.80	3.30
" " Female,	"	.42	.54	.63	.90	1.05	1.55	2.85
Gal. Union Ells, Male and Female,	"	.72	.93	1.08	1.60	1.80	2.70	4.95
" " Female,	"	.63	.81	.95	1.35	1.58	2.35	4.30

MALLEABLE IRON UNION TEES.

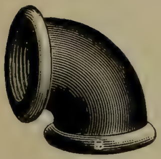

MALE AND FEMALE
Fig. 1285.

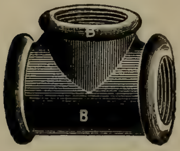

FEMALE.
Fig. 1286.

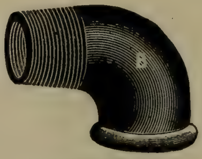
Size, ...	Inches,	½	¾	1	1¼	1½	2	2½
Union Tees, Male and Female,	Each,	$0.52	.65	.80	1.10	1.30	1.95	3.70
“ “ Female, . . .	“	.45	.57	.70	.95	1.15	1.70	3.20
Galvanized Union Tees, Male and Female,	“	.78	1.00	1.20	1.65	1.95	2.95	5.55
“ “ “ Female, .	“	.68	.86	1.05	1.45	1.75	2.55	4.80

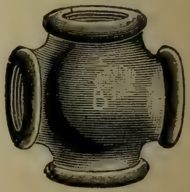
ROUGH BRASS FITTINGS.—Iron Pipe Sizes.

MALLEABLE IRON PATTERN.

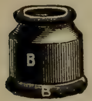

ELBOW.
Fig. 1287.

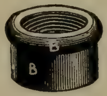

TEE.
Fig. 1288.

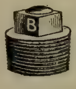

STREET ELBOW.
Fig. 1289.

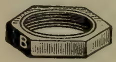

CROSS.
Fig. 1290.

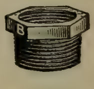
Size, . .	Inches,	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows, . .	Each,	$0.12	.17	.21	.28	.35	.50	.85	1.10	1.50	3.50	4.50	7.00	10.00
Reducing Elbows,	“	. .	.22	.26	.35	.45	.62	1.10	1.40	1.90	4.40	5.65	8.75	12.50
45° Elbows . .	“	. .	.25	.30	.40	.50	.75	1.25	1.65	2.25	5.25	6.75	. .	. .
Tees, . . .	“	.15	.20	.30	.40	.50	.75	1.00	1.30	1.75	4.00	5.50	9.00	13.00
Reducing Tees, .	“	. .	.25	.38	.50	.63	.95	1.25	1.65	2.20	5.00	6.90	11.25	16.25
Crosses, . .	“	.20	.30	.40	.50	.60	.80	1.50	2.00	3.50	5.00	7.00	10.00	14.50
Reducing Crosses,	“	. .	.38	.50	.65	.75	1.00	1.90	2.50	4.40	6.25	8.75	12.50	18.00
Street Elbows, .	“	. .	. .	.35	.55	.75	1.00	1.80	2.50	3.25	. .	. .	. .	. .

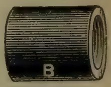

REDUCING COUPLING
Fig. 1291.


CAP.
Fig. 1292.


PLUG.
Fig. 1293.


LOCKNUT.
Fig. 1294.


BUSHING.
Fig. 1295.


COUPLING.
Fig. 1296.

Size. . .	Inches,	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Reducing Couplings.	Each.	. .	$0.16	.22	.32	.45	.65	.90	1.12	1.85	3.00	4.50	. .	. .
Caps . . .	“	.15	.15	.20	.25	.35	.45	.60	.80	1.10	2.00	3.00	. .	. .
Plugs, . . .	“	.09	.10	.12	.15	.20	.28	.40	.50	.90	1 25	2.00	3.00	4.00
Locknuts, . .	“	.10	.10	.12	.15	.20	.30	.45	.70	.95	1.50	2.75	. .	. .
Bushings, . .	“	. .	.10	.12	.14	.21	.38	.50	.67	1.00	1.50	2.50	. .	. .
Couplings . .	“	.10	.14	.16	.25	.37	.50	.60	.90	1.35	2.40	3.50	. .	. .
Couplings, R. and L,	“	. .	.17	.20	.30	.45	.60	.75	1.12	1.75	. .	. .	. .	. .
Close Nipples, .	“	.12	.15	.20	.25	.30	.40	.60	.90	1.25	2.50	3.50	. .	. .
Long Nipples, .	“	.15	.20	.30	.35	.45	.60	.90	1.25	1.60	3.00	4.50	. .	. .

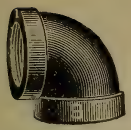
RETURN BENDS.

CLOSE PATTERN.

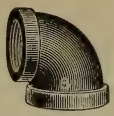
Size.	Inches,	½	¾	1	1¼	1½	2
Price, ...	Each,	$0.60	.80	1.15	1.75	2.50	3.50

EXTRA HEAVY ROUGH BRASS FITTINGS–IRON PIPE SIZES.

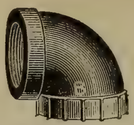
CAST-IRON PATTERN.



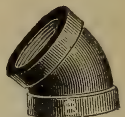
ELBOW.
Fig. 1297.



ELBOW REDUCING.
Fig. 1298.

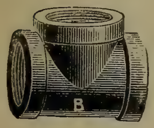


ELBOW R. & L.
Fig. 1299.

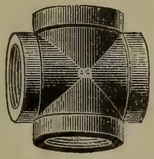


45° ELBOW.
Fig. 1300.

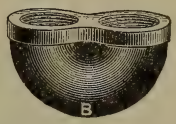
Size, Inches		⅜	½	¾	1	1¼	1½	2	2½	3
Elbows . . .	Each .	.28	.36	.70	1.00	1.50	2.00	3.00	5.50	8.50
" Reducing .	" .	.32	.42	.80	1.15	1.72	2.30	3.45	6.30	9.75
" R. and L. .	" .	.32	.42	.80	1.15	1.72	2.30	3.45	6.30	9.75
45° Elbows . .	" .	. .	.36	.70	1.00	1.50	2.00	3.00	5.50	8.50



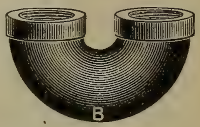
TEE.
Fig. 1301.



CROSS.
Fig. 1302.



RETURN BEND, CLOSE.
Fig. 1303.



RETURN BEND, OPEN.
Fig. 1304.

Size, Inches		⅜	½	¾	1	1¼	1½	2	2½	3
Tees	Each	.40	.65	1.00	1.35	2.00	3.00	4.50	7.50	11.00
" Reducing . .	"	.46	.75	1.15	1.55	2.30	3.45	5.20	8.60	12.65
Crosses	"	. .	.90	1.30	1.80	2.75	4.00	5.25	9.00	14.00
" Reducing . .	"	. .	1.04	1.50	2.10	3.15	4.60	6.00	10.35	16.00
Return Bends, Close .	"	. .	.70	.85	1.00	2.25	2.75	4.50	. .	. .
" " Open .	"	. .	.75	1.00	1.75	3.00	3.75	6.00	. .	. .

BRASS UNIONS, GROUND JOINT.

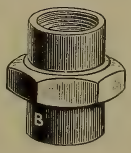


Fig. 1305.

Size, Inches		⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Rough . . .	Each	.35	.40	.55	.75	1.00	1.40	1.90	2.75	4.00	6.50	8.50
Finished . . .	"	.32	.36	.50	.70	.90	1.25	1.70	2.50	3.60	6.00	7.75
Octagon, Rough .	"	.35	.40	.55	.75	1.00	1.40	1.90	2.75	4.00	6.50	8.50
" Finished .	"	.50	.55	.75	1.00	1.50	2.00	2.50	3.00	4.50	. .	. .

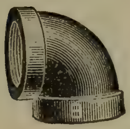
FINISHED BRASS FITTINGS. IRON PIPE SIZES.

MALLEABLE IRON PATTERN.

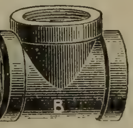
Size	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Elbows	$0.24	.34	.42	.56	.70	1.00	1.70	2.20	3.00	7.00	9.00	14.00	20.00
Elbows, reducing . .	..	.44	.52	.70	.90	1.25	2.20	2.80	3.80	8.80	11.30	17.50	25.00
Elbows, 45°	..	.42	.50	.68	.85	1.25	2.10	2.75	3.75	8.75	11.00	..	..
Tees	.30	.40	.60	.80	1.00	1.50	2.00	2.60	3.50	8.00	11.00	18.00	26.00
Tees, reducing . .	..	.50	.76	1.00	1.25	1.90	2.50	3.30	4.40	10.00	13.80	22.50	32.50
Crosses	..	.60	.80	1.00	1.20	1.60	3.00	4.00	7.00	10.00	14.00	20.00	29.00
Crosses, reducing . .	..	.75	1.00	1.30	1.50	2.00	3.80	5.00	8.80	12.50	17.50	25.00	36.00
Caps	.30	.30	.40	.50	.70	.90	1.20	1.60	2.20	4.00	6.00	.	..
Plugs	.18	.20	.24	.30	.40	.56	.80	1.00	1.80	2.50	4.00	6.00	8.00
Reducers, reducing one size	..	.32	.44	.64	.90	1.30	1.80	2.25	3.70	6.00	9.00	..	..
Couplings	.20	.28	.32	.50	.75	1.00	1.20	1.80	2.70	4 80	7.00	..	..
Couplings, right and left .	..	.31	.36	.55	.82	1.10	1.35	2.00	3.10	..	..	..	..
Lock Nuts	.20	.20	.24	.30	.40	.60	.90	1.40	1.90	3.00	5.50	..	..
Bushings	..	.20	.24	.28	42.	.76	1.00	1.35	2.00	3.00	5.00	..	..
Return Bends, close. .	..	..	..	1.20	1.60	2.30	3.50	5.00	7.00	..	..	..	..

CAST IRON HYDRAULIC FITTINGS.

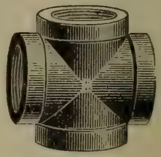
SUITABLE FOR VERY HIGH WORKING PRESSURE.



ELBOW.
Fig. 1306.



TEE.
Fig. 1307.



CROSS
Fig. 1308.

Size	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Hydraulic Elbows . .	$0.30	.45	.50	.70	.80	1.25	1.85	2.25	2.75	3.00	4.00	5.00	6.00
" " 45° . .	.45	.65	.75	1.00	1.25	1.75	2.25	2.50	3.00	3.50	4.50	5.25	6.25
" Tees . . .	.45	.65	.75	1.05	1.30	1.90	2.75	3.30	4.00	4.50	6.00	7.50	9.00
" Crosses . .	.60	.90	1.00	1.40	1.60	2.50	3.70	4.50	5.50	6.00	8.00	10.00	12.00
" Flange Unions with rubber gaskets	1.20	1.30	1.40	1.50	2.00	2.25	3.00	3.50	4.00	4.50	5.00	5.50	6.50

WROUGHT IRON COUPLINGS.

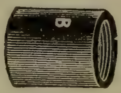


Fig. 1309.

Size of Pipe . . .		¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	10	12
Couplings . .	Each,	$0.05	06	.07	.10	.13	.17	.21	.28	.40	.60	.80	1.00	1.50	1.65	2 40	3.25	4.25	7.50	10 00
" R. and L.	"	.07	.08	.11	.15	.20	.25	.30	.50	.85	1.20	1.60	2 00	..	..	..	..	..	..	..
" Galvanized	"	.06	.08	.10	.13	.18	.25	.32	.40	.55	.80	1.05	1.40	2.00	2.25	3.25	..	..	..	..

WROUGHT IRON QUARTER BENDS.

Size		½	¾	1	1¼	1½	2	2½	3	3½	4
Radius, . .	Inches	1	1½	2½	3½	4½	6	8	12	14	16
Each		$0.40	.55	.75	1.00	1.30	1.70	2.50	3.50	4.75	6.50

WROUGHT IRON RETURN BENDS.

Size		½	¾	1	1¼	1½	2	2½	3	3½	4
Radius, . .	Inches	1	1½	2½	3½	4½	6	8	12	14	16
Each		$0.65	.95	1.35	1.75	2.35	3.15	4.75	6.75	9.25	12.75

These Bends are made from Standard Extra Heavy Pipe.

CAST-IRON FITTINGS.

EXTRA HEAVY.

Size, ... Inches,	¾	1	1¼	1½	2	2½	3	3½	4
Extra Heavy Elbows, . . Each,	$0.30	.35	.45	.60	.75	1.25	2.00	2.75	3.50
" " Elbows Reducing, "	.40	.45	.55	.75	.95	1.55	2.50	3.40	4.40
" " Elbows 45° "	.40	.45	.55	.70	.90	1.50	2.50	3.50	4.50
" " Elbows, R. and L., "	.40	.45	.55	.75	.95	. .	. .	. .	. .
" " Tees, . . "	.50	.55	.70	.90	1.15	1.80	3.00	4.25	5.50
" " Tees, Reducing "	.65	.70	.90	1.15	1.40	2.25	3.75	5.30	6.85
" " Crosses, . . "	.65	.70	.90	1.20	1.50	2.50	4.00	5.50	7.00
" " Crosses, Reducing, "	.85	.90	1.15	1.50	1.85	3.15	5.00	6.85	8.75
" " Solid Plugs . "	.05	.06	.10	.13	.20	.35	.50	.75	.85
" " Flange Unions "	.70	.80	1.00	1.15	1.50	1.90	2.25	2.70	3.15

Size, ... Inches,	4½	5	6	7	8	10	12
Extra Heavy Elbows, . Each,	$4.25	5.50	8.00	12.00	17.00	28.00	40.00
" " Elbows, Reducing, "	5.30	6.80	10.00	15.00	21.00	35.00	50.00
" " Elbows, 45° . "	5.50	6.75	9.75	14.50	21.00	34.00	48.00
" " Tees, . . "	6.75	8.25	12.00	18.00	25.00	42.00	60.00
" " Tees, Reducing, "	8.50	10.25	15.00	22.50	31.00	52.00	75.00
" " Crosses . . "	8.50	11.00	16.00	24.00	34.00	56.00	80.00
" " Crosses, Reducing, "	10.00	13.75	20.00	30.00	42.00	70.00	100.00
" " Solid Plugs, . "	1.35	1.75	2.40	3.75	5.50	7.50	10.00
" " Flange Unions, "	4.00	4.75	6.00	8.25	10.50	. .	. .

CAST-IRON CAR HEATER FITTINGS.

EXTRA HEAVY ELBOWS.

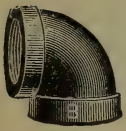


Fig 1310.

Size, . . . Inches,	½	¾	1	1¼	1½ x 1¼	1½	2
Right Hand, . Each,	$0.22	.25	.27	.30	.45	.45	.55
Right and Left, . "	.22	.25	.27	.30	.45	.45	.55

TEES.

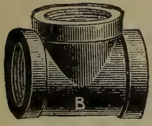


Fig. 1311.

Size, . Inches,	½	¾	1	1¼	1¼x¾x1¼	1¼x1¼x¾	1¼x1¼x½	1½x1½x¾	2
Right Hand, Each,	$0.30	.35	.40	.45	.45	.45	.45	.65	.85

RETURN BENDS.

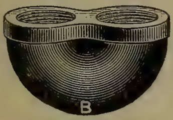


Fig. 1312.

Size, ... Inches,	1¼	1¼	1¼	1¼	1¼	1¼
Distance between centres, "	2⅜	3	4	5	7½	8
Each	$0.45	.50	.60	.70	1.10	1.10

CAR HEATER COUPLINGS.

Cast-iron Coupling.

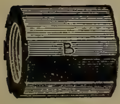


Fig. 1313.

Size, ... Inches,	1	1¼	1½	2
Right Hand, . . . Each,	$0.25	.30	.45	.55
Right and Left, . . "	.35	.40	.55	.65

Wrought-iron Coupling.

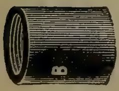
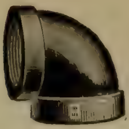
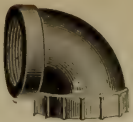


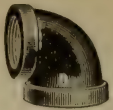
Fig. 1314.

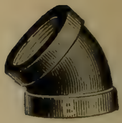
Size, ... Inches,	½	¾	1	1¼	1½	2
Actual outside diameter, "	1.09	1.31	1.63	2.13	2.31	2.78
Length of coupling . "	1.63	1.88	2.13	2.13	2.63	2.94
Right Hand . . . Each,	$0.10	.15	.20	.30	.40	.50
Right and Left . . "	.15	.22	.30	.40	.50	.60

CAST-IRON FITTINGS.


ELBOW.
Fig. 1315.

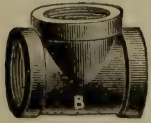

R. AND L. ELBOW.
Fig. 1316.

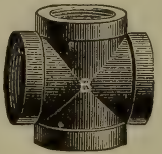

REDUCING ELLOW.
Fig. 1317.

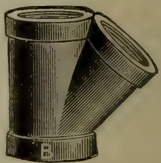

45° ELBOW.
Fig. 1318.

Size,	Inches,	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Elbows, R. H.,	Each,	$0.05	.05	.06	.08	.10½	.16	.20	.28	.50	.75
“ R. and L.,	“	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85
“ L. H.,	“	.06	.06	.07	.09	.12	.18	.23	.32	.60	.85
“ Reducing,	“	. .	.06	.07	.09	.12	.18	.23	.32	.60	.85
“ Pitched,	“	. .	. .	. .	.10	.13	.20	.25	.35	.65	1.00
“ with Side Oulet,	“	. .	. .	.18	.24	.30	.48	.60	.84	1.50	2.25
45° Elbows,	“	.06	.06	.07	.10	.12	.19	.24	.34	.60	.90

Size,	Inches,	3½	4	4½	5	6	7	8	9	10	12
Elbows, R. H.,	Each,	$1.05	1.20	1.75	2.00	2.75	4.70	6.75	9.00	13.50	20.00
“ Reducing,	“	1.20	1.40	2.00	2.30	3.15	5.40	7.75	10.50	15.50	23.00
“ Pitched,	“	1.30	1.50	. .	. .	. .	. .	. .	. .	. .	. .
“ with Side Outlet,	“	3.15	3.60	5.25	6.00	8.25	. .	. .	. .	. .	. .
45° Elbows,	“	1.25	1.45	2.20	2.50	3.45	5.90	8.50	11.25	17.00	25.00


TEE.
Fig. 1319.


CROSS.
Fig. 1320.


Y BRANCH.
Fig. 1321.

Size,	Inches,	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Tees,	Each,	$0.08	.08	.09	.12	.15	.23	.29	.41	.73	1.10
“ Reducing,	“	. .	.09	.10	.14	.17	.27	.33	.47	.83	1.25
“ with Side Outlet,	“	. .	. .	.27	.36	.45	.70	.90	1.25	2.25	3.25

Size,	Inches,	3½	4	4½	5	6	7	8	9	10	12
Tees,	Each,	$1.50	1.75	2.55	3.00	4.00	6.80	9.75	13.00	19.50	29.00
“ Reducing,	“	1.75	2.00	2.95	3.50	4.60	7.80	11.25	15.00	22.50	33.50
“ with Side Outlet,	“	4.50	5.25	7.65	9.00	12.00	. .	. .	. .	. .	. .

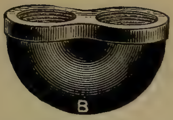
Size,	Inches,	⅜	½	¾	1	1¼	1½	2	2½	3	3½
Crosses,	Each,	$0.15	.16	.22	.27	.42	.53	.75	1.30	2.00	2.70
“ Reducing	“	. .	.18	.25	.30	.46	.60	.83	1.45	2.20	3.00
Y Branches,	“	. .	.20	.28	.34	.54	.66	.94	1.66	2.50	3.50
“ Reducing,	“	. .	23	.33	.40	.62	.76	1.08	1.90	2.90	4.00

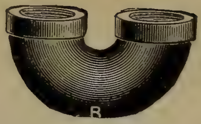
Size,	Inches,	4	4½	5	6	7	8	9	10	12
Crosses,	Each,	$3.15	4.60	5.50	7.25	12.25	17.50	23.50	35.00	52.50
“ Reducing,	“	3.50	5.10	6.00	8.00	13.50	19.25	26.00	38.50	58.00
Y Branches,	‘	4.00	5.90	7.00	9.20	15.60	22.50	. .	45.00	67.00
“ Reducing,	“	4.60	6.80	8.00	10.60	18.00	26.00	. .	51.75	77.00

For Galvanized Cast-iron Fittings, See page 377.

CAST-IRON FITTINGS.

RETURN BENDS.


CLOSE.
Fig. 1322.


OPEN.
Fig. 1323.

Size, inches		½	¾	1	1¼	1½	2	2½	3
Return Bends, close	Each	.18	.20	.22	.28	.40	.57	1.20	1.70
" " open	"	..	.26	.30	.40	.55	.80	1.35	2.20
" " back outlet	"	..	.38	.42	.60	.80	1.15	2.00	3.00
" " close, R. and L. or L. H.	"	.21	.23	.26	.33	.46	.66	1.40	1.95
" " open, R. and L. or L. H.	"	..	.30	.35	.46	.64	.92	1.55	2.50
" " close pitched, R. H.	"	..	..	.26	.33	..	..	..	..
" " close pitched, R. and L. or L. H.	"	..	..	.26	.33	..	..	..	..

DIMENSIONS OF RETURN BENDS.

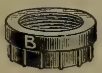
Size of Pipe, Inches		½	¾	1	1¼	1½	2	2½	3	3½	4
Close	Centre to Centre, inches	1⅜	1½	1¾	2¼	2½	3¼	3⅝	4⅜	5	5½
Open	" " "	1¾	2¼	2½	3	3½	4	5⅜	6¼	6⅝	7
Back Outlet	" " "	..	2¼	2½	3	3½	4	5⅜	6¼	6⅝	7

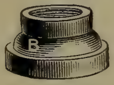
RETURN BENDS, WIDE PATTERN.

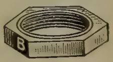
Size, inches,	1	1	1	1	1	1¼	1¼	1½	1½	2½	2	2	4	4
Centre to Centre,	3	4	5	6	8	4	6	4⅞	6	8	4⅞	6	7½	11
Right Hand, each,	.45	.50	.60	.75	1.00	1.00	1.25	1.30	1.60	2.00	1.75	2.00	5.75	6.50
Galvanized, "	.80	.90	1.10	1.30	1.60	1.75	2.00	2.30	2.60	3.25	3.00	3.25	10.00	11.00

OFFSETS.

Size, Inches	¾	1	1¼	1½	2	2½	3	3½	4	5	6
To offset 4 inches, each	.45	.70	1.00	1.20	1.80	3.00	4.00	5.00	6.00	8.00	10.00
" 6 " "	.67	1.05	1.50	1.80	2.70	4.50	6.00	7.50	9.00	12.00	15.00
" 8 " "	.90	1.40	2 00	2.40	3.60	6.00	8.00	10 00	12.00	16.00	20.00


CAP.
Fig. 1324.


REDUCER.
Fig. 1325.


LOCKNUT.
Fig. 1326.

Size, inches	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Caps, each	.26	.40	.54	.75	.87	1.05	1.20	1.55	2.50	2.85	4.75	5.50	7.00
Reducers, each	.43	.60	.80	1.00	1.35	1.85	2.00	2.70	5.35	6.75	8.35	10.00	15.00
Locknuts, "	.25	.27	.34	.47	.64	.85	.90	1.30	1.70	2.35	2.70	3.00	4.00

BUSHINGS.

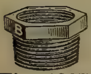


Fig. 1327.

Size, inches	⅜	½	¾	1	1¼	1½	2	2½	3	3½
Each	.04	.04	.05	.06	.07	.09	.14	.21	.30	.40
Size, inches	4	4½	5	6	7	8	9	10	12	
Each	.50	.75	.93	1.25	1.87	2.75	3.25	3.75	5.00	

BUSHINGS, FACED.

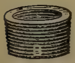


Fig 1328.

Size, inches	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Each	.08	.09	.11	13	.17	.22	.32	.48	.70	1.20	1.50

CAST-IRON FITTINGS.

PLUGS—SQUARE HEAD AND SOLID.

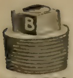


Fig. 1329.

Size, inches	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3
Square Head, each	$0.02	.02	.02	.03	.04	.05	.07	.10	.18	.25
Solid "	.04	.04	.04	.06	.08	.09	.11	.15	.27	.38

Size, inches	3 1/2	4	4 1/2	5	6	7	8	9	10	12
Square Head, each	$0.38	.42	.65	.88	1.20	1.85	2.75	3.25	3.75	5.00
Solid "	.57	.63	1.00	1.35	1.80	2.80	4.15	5.00	5.75	7.50

PLUGS—SOCKET (COUNTER SUNK) AND LEFT HAND.

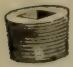


Fig. 1330.

Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Socket, each	$0.04	.06	.08	.09	.11	.15
Left Hand "	. .	.06	.08	.09	.11	.15

CAST-IRON FLANGES.

Common Flange. Not Faced.

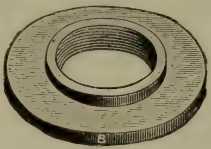


Fig. 1331.

Pipe Size	3/8	1/2	3/4	1	1 1/4	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	6
Diam., 3 in.	$0.10	.10												
3 1/2	.15	.15	.15	.15	.16									
4	.22	.22	.22	.16	.16									
4 1/2	.25	.25	.25	.25	.25	.22								
5	.35	.35	.30	.30	.30	.30	.35							
5 1/2	.45	.45	.45	.40	.40	.40	.35	.40						
6	.50	.50	.50	.42	.40	.40	.42	.42	.50					
6 1/2		.65	.60	.60	.60	.55	.50	.50	.50	.65				
7		.75	.75	.75	.70	.70	.62	.62	.62	.75				
7 1/2		.90	.90	.90	.85	.85	.80	.80	.75	.85	.90			
8		1.00	1.00	1.00	.95	.95	.90	.90	.90	.90	.90			
8 1/2		1.25	1.25	1.25	1.15	1.15	1.10	1.10	1.10	1.00	1.00			
9				1.35	1.35	1.35	1.30	1.25	1.15	1.15	1.15	1.15	1.40	
9 1/2					1.90	1.90	1.75	1.75	1.60	1.60	1.50	1.25	1.50	1.50
10					2.25	2.25	2.15	2.00	1.80	1.50	1.50	1.50	1.50	1.50
11							2.50	2.50	2.25	2.25	2.00	1.75	1.75	1.75
12								3.00	3 00	2.75	2.50	2.50	2.20	2.20
13									3.50	3.50	3.25	3.00	3.00	2.80
14									4.00	4.00	3.75	3.75	3.50	3.25
Pipe Size									**7**	**8**	**9**	**10**	**12**	**14**
Diam., 11 in.									2.20					
12									2.20	2.80				
13									2.80	2.80				
14									3.25	3.25	3.75	4.00		
15									4.00	4.00	4.00	4.50		
16									5.00	5.00	5.00	5.00	6.00	
17									6.50	6.50	5.75	5.75	7.00	
18										8.00	8.00	7.00	7.00	
19												7.50	7.50	
20													8.50	8.50
21														9.50

Curved and Extra Heavy Flanges made to order at special prices.

GALVANIZED FLANGES AT DOUBLE ABOVE PRICE.

STANDARD FLANGE UNIONS, CAST-IRON.

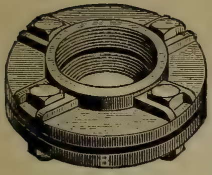


Fig. 1332.

Size	½	¾	1	1¼	1½	2	2½	3	3½
Diam. of Flanges	2 11/16	3 1/16	3½	3 13/16	4⅜	5⅛	6 1/16	6¾	7¼
Number of Bolts	3	3	3	4	4	4	4	4	4
Each	$0.40	.46	.52	.64	.78	1.00	1.25	1.50	1.80
Size	4	4½	5	6	7	8	9	10	12
Diam of Flanges	7 13/16	8¼	9 1/16	10	11 1/16	12⅛	13¼	15 1/16	17¼
Number of Bolts	4	5	5	6	7	8	9	10	12
Each	$2.10	2.70	3.15	3.95	5.50	7.00	10.00	11.50	16.00

MALLEABLE IRON FLANGE UNIONS.

Size, inches		½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Black	Each	$1.25	1.40	1.60	2.00	2.50	3.00	3.50	4.40	5.25	6.00	7.00	8.00	9.00
Galvanized	"	2.50	2.80	3.20	4.00	5.00	6.00	7.00	8.80	10.50	12.00	14.00	16.00	18.00

GALVANIZED CAST-IRON FITTINGS.

STANDARD.

Size, inches		¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½
Elbows, R. H.	Each	$0.10	.10	.12	.16	.21	.32	.40	.56	1.00	1.50	2.10
45° Elbows	"	.12	.12	.14	.20	.24	.38	.48	.68	1.20	1.80	2.50
Reducing Elbows	"		.12	.14	.18	.24	.36	.46	.64	1.20	1.70	2.40
Tees	"	.16	.16	.18	.24	.30	.46	.58	.82	1.46	2.20	3.00
Reducing Tees	"		.18	.20	.28	.34	.54	.66	.94	1.66	2.50	3.50
Crosses	"		.30	.32	.44	.54	.84	1.06	1.50	2.60	4.00	5.40
Return Bends, Close	"			.36	.40	.44	.56	.80	1.14	2.40	3.40	. .
" " Open	"				.52	.60	.80	1.10	1.60	2.70	4 40	. .
" " Black Outlet	"				.76	.84	1.20	1.60	2.30	4.00	6.00	. .
Flange Unions	"			.80	.92	1.04	1.28	1.56	2.00	2.50	3.00	3.60
" " Lip	"			1.00	1.25	1.50	1.65	2.00	2.50	2.90	3.35	4.55
Caps, Cast-iron	"								.52	.80	1.08	1.50
Reducers	"								.86	1.20	1.60	2.00
Locknuts	"								.50	.54	.68	.94
Y Bends	"			.40	.56	.68	1.08	1.32	1.88	3.32	5.00	7.00
Offsets, to offset 4 inches	"				.90	1.40	2.00	2.40	3.60	6.00	8.00	10.00
" " 6 "	"				1.34	2.10	3.00	3.60	5.40	9.00	12.00	15.00
" " 8 "	"				1.80	2.80	4.00	4.80	7.20	12.00	16.00	20.00
Bushings	"		.08	.08	.10	.12	.14	.18	.28	.42	.60	.80
Plugs	"	.04	.04	.04	.06	.08	.10	.14	.20	.36	.50	.76

Size, inches		4	4½	5	6	7	8	9	10	12
Elbows, R. H.	Each	$2.40	3.50	4.00	5.50	9.40	13.50	18.00	27.00	40.00
45° Elbows	"	2.90	4.40	5.00	6.90	11.80	17.00	22.50	34.00	50.00
Reducing Elbows	"	2.80	4.00	4.60	6.30	10.80	15.50	21.00	31.00	46.00
Tees	"	3.50	5.10	6.00	8.00	13.60	19.50	26.00	39.00	58.00
Reducing Tees	"	4.00	5.90	7.00	9.20	15.60	22.50	30 00	45.00	67.00
Crosses	"	6.30	9.20	11.00	14.50	24.50	35.00	47.00	70.00	105.00
Flange Unions	"	4.20	5.40	6.30	7.90	11.00	14.00	20.00	23.00	32.00
" " Lip	'	5.00	5.85	6.65	8.35	11.65	16.65	25.00	29.00	34.00
Caps	"	1.74	2.10	2.40	3.10	5.00	5.70	9.50	11.00	14.00
Reducers	"	2.70	3.70	4.00	5.40	10.70	13.50	16.70	20.00	30.00
Locknuts	"	1.28	1.70	1.80	2.60	3.40	4.70	5.40	6.00	8.00
Y Bends	"	8.00	11.80	14.00	18.40	31.20	45.00	. .	90.00	134.00
Offsets, to offset 4 inches	"	12.00	. .	16.00	20.00	. .	. .	. .	. .	. .
" " 6 "	"	18.00	. .	24.00	30.00	. .	. .	. .	. .	. .
" " 8 "	"	24.00	. .	32.00	40.00	. .	. .	. .	. .	. .
Bushings	"	1.00	1.50	1.85	2.50	3.75	5.50	6.50	7.50	10.00
Plugs	"	.84	1.30	1.75	2.40	3.70	5.50	6.50	7.50	10.00

WROUGHT IRON NIPPLES.

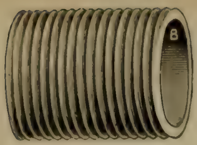


Fig. 1333.

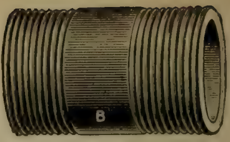


Fig. 1334.

LIST OCT. 7, 1890.

PRICE, EACH.

THREADED RIGHT HAND.

LENGTH, INCHES.							Close or		Extra Long Nipples.								
Close.	Short.	Long.				Sizes.	Short.	Long.	4	5	6	7	8	9	10	11	12 ins.
¾	1½	2	2½	3	3½	⅛	$0.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
⅞	1½	2	2½	3	3½	¼	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
1	1½	2	2½	3	3½	⅜	.04	.06	.07	.08	.10	.12	.14	.15	.17	.18	.19
1⅛	1½	2	2½	3	3½	½	.05	.07	.08	.10	.12	.14	.16	.18	.20	.22	.23
1⅜	2	2½	3	3½	4	¾	.06	.09	..	.11	.13	.17	.18	.20	.22	.24	.26
1½	2	2½	3	3½	4	1	.08	.13	..	.15	.18	.23	.25	.28	.31	.34	.36
1⅝	2½	3	3½	4	4½	1¼	.11	.17	..	.20	.24	.29	.33	.36	.40	.44	.47
1¾	2½	3	3½	4	4½	1½	.13	.20	..	.25	.29	.36	.40	.45	.50	.54	.59
2	2½	3	3½	4	4½	2	.18	.27	..	.32	.38	.50	.54	.59	.65	.72	.77
2½	3	3½	4	4½	5	2½	.39	.59	..	..	.68	.90	.97	1.06	1.17	1.26	1.35
2½	3	3½	4	4½	5	3	.48	.72	..	..	.85	1.08	1.20	1.33	1.45	1.58	1.70
2¾	4	4½	5	5½	6	3½	.75	1.05	..	..	..	1.30	1.45	1.60	1.75	1.90	2.05
3	4	4½	5	5½	6	4	.85	1.20	..	..	..	1.52	1.69	1.87	2.05	2.22	2.40
3	4	4½	5	5½	6	4½	1.25	1.70	..	..	..	2.25	2.50	2.75	2.95	3 17	3.40
3½	4½	5	5½	6	6½	5	1.55	2.45	..	..	..	2.58	2.83	3.10	3.35	3.60	3.85
3½	4½	5	5½	6	6½	6	1.85	2.90	..	..	..	3.05	3.35	3.70	4.00	4.30	4.65
4	5	6	..	..	..	7	3.20	3.60	..	..	..	4.05	4.45	4.90	5.30	5.75	6.15
4	5	6	..	..	..	8	3.55	4.05	..	..	..	4.55	5.05	5.50	6.00	6.50	7.00
5	6	8	..	..	..	9	5.25	6.50	..	..	..	..	..	7.10	7.75	8.40	9.00
5	6	8	..	..	..	10	6.75	8.25	..	..	..	..	..	8.90	9.70	10.40	11.15
..	..	..	..	..	..	11	..	..	..	..	..	..	..	..	..	..	..
5	6	8	..	..	..	12	8.00	10.00	..	..	..	..	..	10.80	11.75	12.70	13.65

THREADED RIGHT AND LEFT HAND.

¾	1½	2	2½	3	3½	⅛	$0.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
⅞	1½	2	2½	3	3½	¼	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
1	1½	2	2½	3	3½	⅜	.05	.08	.09	.11	.13	.16	.18	.20	.23	.25	.27
1⅛	1½	2	2½	3	3½	½	.07	.10	.11	.13	.16	.18	.21	.24	.27	.29	.31
1⅜	2	2½	3	3½	4	¾	.08	.12	..	.15	.17	.23	.25	.27	.29	.32	.35
1½	2	2½	3	3½	4	1	.11	.18	..	.20	.24	.31	.33	.37	.41	.45	.48
1⅝	2½	3	3½	4	4½	1¼	.15	.23	..	.27	.32	.39	.45	.50	.55	.60	.65
1¾	2½	3	3½	4	4½	1½	.18	.27	..	.34	.39	.48	.52	.60	.67	.72	.80
2	2½	3	3½	4	4½	2	.24	.36	..	.43	.51	.67	.72	.80	.87	.96	1.03
2½	3	3½	4	4½	5	2½	.52	.79	..	..	.91	1.20	1.30	1.40	1.55	1.68	1.80
2½	3	3½	4	4½	5	3	.65	.96	..	..	1.13	1.44	1.60	1.77	1.93	2.10	2.27
2¾	4	4½	5	5½	6	3½	1.00	1.40	..	..	..	1.75	1.95	2.15	2.35	2.55	2 75
3	4	4½	5	5½	6	4	1.15	1.60	..	..	..	2.00	2.25	2.50	2.75	3.00	3.25

Add 60 per cent. to above prices for Galvanized Nipples threaded right and left.

GALVANIZED THREADED RIGHT HAND.

¾	1½	2	2½	3	3½	⅛	$0.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
⅞	1½	2	2½	3	3½	¼	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1	1½	2	2½	3	3½	⅜	.06	.11	.12	.15	.17	.21	.24	.26	.29	.31	.34
1⅛	1½	2	2½	3	3½	½	.06	.11	.13	.16	.18	.23	.26	.28	.31	.33	.36
1⅜	2	2½	3	3½	4	¾	.08	.14	..	.18	.21	.26	.29	.32	.35	.38	.41
1½	2	2½	3	3½	4	1	.11	.19	..	.24	.28	.34	.38	.42	.47	.51	.55
1⅝	2½	3	3½	4	4½	1¼	.17	.29	..	.32	.38	.45	.51	.57	.63	.69	.75
1¾	2½	3	3½	4	4½	1½	.21	.35	..	.39	.46	.55	.63	.70	.77	.84	.91
2	2½	3	3½	4	4½	2	.27	.47	..	.52	.61	.74	.83	.93	1.03	1.13	1.23
2½	3	3½	4	4½	5	2½	.56	.86	..	..	1.00	1.26	1.41	1.56	1.71	1.86	2.01
2½	3	3½	4	4½	5	3	.70	1.10	..	..	1.30	1.60	1.80	2.00	2.20	2.40	2.60
2¾	4	4½	5	5½	6	3½	1.20	1.70	..	..	..	2.10	2.35	2.60	2.85	3.15	3.40
3	4	4½	5	5½	6	4	1.35	1.87	..	..	..	2.30	2.60	2.90	3.20	3.50	3.80
3	4	4½	5	5½	6	4½	1.85	2.60	..	..	..	3.30	3.65	4.05	4.45	4.85	5.25
3½	4½	5	5½	6	6½	5	2.30	3.15	..	..	..	3.75	4.20	4.60	5.00	5.40	5.85
3½	4½	5	5½	6	6½	6	2.80	4.25	..	..	..	4.50	5.00	5.55	6.05	6.60	7.15
4	5	6	..	..	..	7	4.25	4.95	..	..	..	5.65	6.35	7.05	7.75	8.45	9.20
4	5	6	..	..	..	8	5.00	5.80	..	..	..	6.65	7.50	8.35	9.25	10.10	10.95

BUNDY STANDARD RADIATOR.

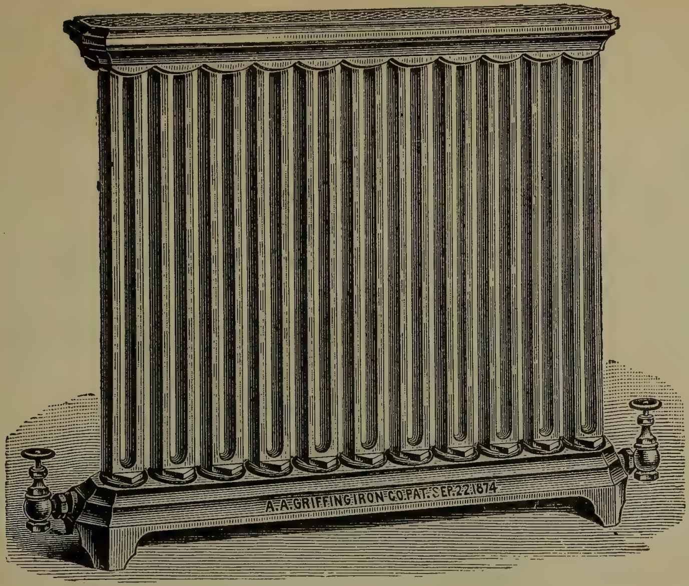

A.A. GRIFFING IRON CO. PAT. SEP. 22.1874

Fig. 1335.

The regular height of leg of the Bundy Standard Radiators makes the distance from floor to centre of tapping 3⅛ inches; regular high leg, 4½ inches; special high legs, from 5 to 10 inches. Unless otherwise ordered, Bundy Standard Steam Radiators are tapped 1 x ¾ inch for two-pipe; 1¼ inch for one-pipe: All openings have right hand threads, unless otherwise ordered.

STEAM—ONE ROW.

Number of Loops in each Row . .	4	6	8	10	12	14	16	20	24	26
Length of Radiator, inches . . .	15¼	21¾	28¼	34¾	41¼	47¾	54¼	67¼	79¾	86¼
Width of Bases, inches	5½	5½	5½	5½	5½	5½	5½	5½	5½	5½
42 inches Height, No. square feet .	14	21	28	35	42	49	56	70	84	91
36 “ “ “ “ .	12	18	24	30	36	42	48	60	72	78
30 “ “ “ “ .	10	15	20	25	30	35	40	50	60	65
24 “ “ “ “ .	8	12	16	20	24	28	32	40	48	52

STEAM RADIATOR—TWO ROW.

Number of Loops in each Row . .	4	6	8	10	12	14	16	20	24	26
Length of Radiator, inches . . .	15¼	21¾	28¼	34¾	41¼	47¾	54¼	67¼	79¾	86¼
Width of Base, inches	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾	9¾
42 inches Height, No. square feet .	28	42	56	70	84	98	112	140	168	182
36 “ “ “ “ .	24	36	48	60	72	84	96	120	144	156
30 “ “ “ “ .	20	30	40	50	60	70	80	100	120	130
24 “ “ “ “ .	16	24	32	40	48	56	64	80	96	104

STEAM—THREE ROW.

Number of Loops in each Row . .	3	4	5	6	7	8	10	11	12	15
Length of Radiator, inches . . .	12¼	15½	18½	22	26	28⅜	34¼	39	42¼	51¾
Width of Base, inches	13½	13½	13½	13½	13½	13½	13½	13½	13½	13½
42 inches Height, No. square feet .	31½	42	52½	63	73½	84	105	115½	126	157½
36 “ “ “ “ .	27	36	45	54	63	72	90	99	108	135
30 “ “ “ “ .	22½	30	37½	45	52½	60	75	82½	90	112½
24 “ “ “ “ .	18	24	30	36	42	48	60	66	72	90

STEAM–FOUR ROW.

Number of loops in each row .	4	6	8	10	12	14	18	20	22	24
Length of Radiator, inches . .	16⅛	22¾	29¼	35⅜	42½	48⅜	60½	67¼	73½	79⅜
Width of base, inches . . .	17½	17½	17½	17½	17½	17½	17½	17½	17½	17½
42 inches height, No. sq. feet .	56	84	112	140	168	196	252	280	308	336
36 " " " " .	48	72	96	120	144	168	216	240	264	288
30 " " " " .	40	60	80	100	120	140	180	200	220	240
24 " " " " .	32	48	64	80	96	112	144	160	176	192

The number of square feet given in above tables are for "Standard Loop." If ordered with "Enlarged Loop" the heating surface is *one-sixth* greater. Dimensions of length and base and number of loops the same. See also page 379.

"ELITE" DIRECT STEAM AND WATER RADIATORS.

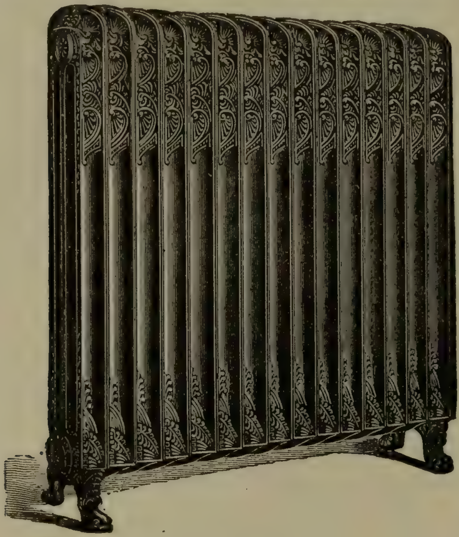


Fig. 1336.

No. of sections	4	6	8	10	12	14	16	18	20	25
Length of Radiator, inches . .	12	18	24	30	36	42	48	54	60	75
45 inches height, No. sq. feet .	26⅔	40	53⅓	66⅔	80	93⅓	106⅔	120	133⅓	166⅔
38 " " " " .	22	33	44	55	66	77	88	99	110	137½
30 " " " " .	18⅔	28	37⅓	46⅔	56	65⅓	74⅔	84	93⅓	116⅔
24 " " " " .	15	22½	30	37½	45	52½	60	67½	75	95¾
20 " " " " .	11	16½	22	27½	33	38½	44	49½	55	68¾

Each section is 8⅜ in. wide. Width of legs, 8½ in. Height of centre of tapping from floor: if tapped, ¾ in., 4⅝ in.; 1 in., 4¾ in.; 1¼ in., 4⅞ in.; 1½ and 2 in., 5 in.

COLUMBIA DIRECT STEAM AND WATER RADIATORS.

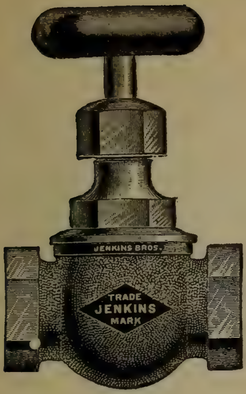
No. of sections	4	6	8	10	12	16	20	24	28	32
Length of Radiator, inches . .	10	15	20	25	30	40	50	60	70	80
45 inches height, No. sq. feet .	20	30	40	50	60	80	100	120	140	160
38 " " " " .	16	24	32	40	48	64	80	96	112	128
32 " " " " .	13⅓	20	26⅔	33⅓	40	53⅓	66⅔	80	93⅓	106⅔
26 " " " " .	10⅔	16	21⅓	26⅔	32	42⅔	53⅓	64	74⅔	85⅓
23 " " " " .	9⅓	14	18⅔	23⅓	28	37⅓	46⅔	56	65⅓	74⅔
20 " " " " .	8	12	16	20	24	32	40	48	56	64

Each section is 8 in. wide. Width of legs, 9 in. Height of centre of tapping from floor: if tapped, ¾ in., 3⅞ in.; 1 in., 4 in.; 1¼ in., 4⅛ in.; 1½ and 2 in., 4¼ in.

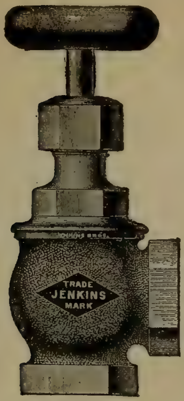
All openings have right hand threads unless otherwise ordered. Connected with extra-heavy slip nipples; steam, 2 in. at bottom; water, 2 in. at bottom and 1⅝ at top. In estimating length of radiator, add 1 in. for the bushing, or plug at each end, when so tapped.

ELITE sections are 3 in. long. COLUMBIA sections are 2½ in. long.

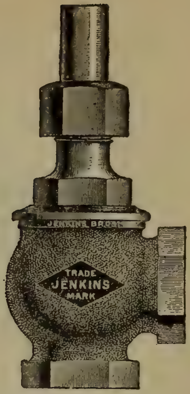
JENKINS BROS. RADIATOR VALVES.



WOOD WHEEL GLOBE.
Fig. 1337.



WOOD WHEEL ANGLE.
Fig. 1338.



LOCK SHIELD ANGLE.
Fig. 1339.

RADIATOR VALVES, SCREWED ENDS, RIGHT OR LEFT THREADS.

No.	Size	¼	⅜	½	¾	1	1¼	1½	2
1	Wood Wheels, rough body, finished trimmings . .	$1.50	1.85	2.00	2.50	3.20	4.50	6.25	10.50
2	Wood Wheels, finished all over	2.00	2.25	2.50	3.00	3.75	5.25	7.25	11.75
3	" rough body, nickel-plated trimmings .	1.80	2.15	2.30	2.80	3.50	4.80	6.55	10.80
4	Wood Wheels, rough body, nickel-plated all over .	1.90	2.25	2.40	2.90	3.60	4.90	6.65	10.90
5	Wood Wheels, finished and nickel-plated all over .	2.40	2.70	2.90	3.40	4 15	5.65	7.65	12.15

Lock Shield Valves Same Price as Wood Wheel Valves.

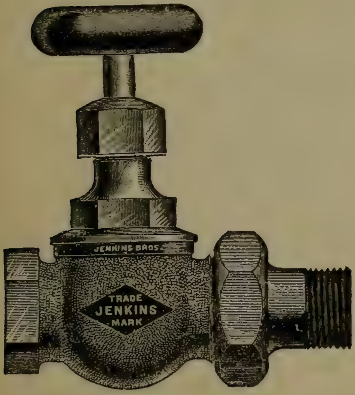


Fig. 1340

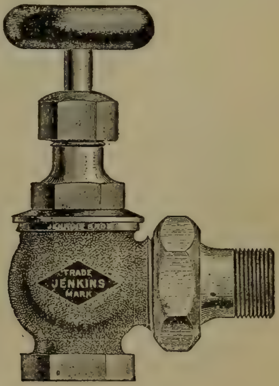


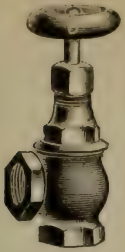
Fig. 1341.

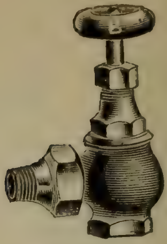
RADIATOR VALVES, GLOBE OR ANGLE, MALE OR FEMALE UNIONS.

No.	Size	½	¾	1	1¼	1½	2
6	Wood Wheels, rough body, finished trimmings	$2.75	3.50	4.30	5.85	7.75	12.60
7	Wood Wheels, finished all over	3.20	4.00	4.80	6.40	8.75	13.85
8	" rough body, nickel-plated trimmings . . , . . .	3.05	3.80	4.60	6.15	8.05	12.90
9	Wood Wheels, rough body, nickel-plated all over	3.15	3.90	4.70	6.25	8.15	13.00
10	Wood Wheels, finished and nickel-plated all over	3.60	4.40	5.20	6.80	9.15	14.25

Tee Handle Keys	¼	⅜	½	¾	1	1¼	1½	2
Price, each	$0.17	.17	.17	.17	18	.18	.27	.27

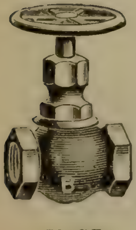
RADIATOR VALVES, WOOD WHEEL, BRASS DISC.

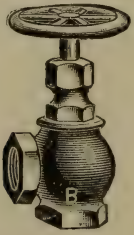

PLAIN.
Fig. 1342.

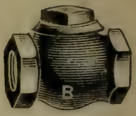

MALE UNION.
Fig. 1343.

Size, inches		½	¾	1	1¼	1½	2
Rough Body, Plain		$1.40	1.75	2.35	3.25	4.35	6.85
" " Plated Trimmings		1.60	2.00	2.65	3.55	4.65	7.35
" " Plated all over		1.70	2.10	2.75	3.70	4.85	7.60
Finished all over		2.15	2.50	3.25	4.35	5.75	9.00
" and Plated all over		2.45	2.85	3.65	4.80	6.25	9.75
Rough Body, Plain	Male or Female Unions	2.15	2.50	3.30	4.40	5.90	9.25
" " Plated Trimmings		2.35	2.75	3.60	4.70	6.25	9.75
" " Plated over all		2.50	2.90	3.75	5.00	6.50	10.00
Finished all over		3.00	3.40	4.25	5.75	7.75	12.00
" and Plated a'l over		3.35	3.80	4.70	6.35	8.35	12.75
For Finished Brass Wheel, instead of Wood Wheel	Add	1.00	1.00	1.00	1.25	1.25	1.25
For Finished and Plated Brass Wheel, instead of Wood Wheel	Add	1.25	1.25	1.25	1.50	1.50	1.50

BRASS VALVES, WITH JENKINS DISC.


GLOBE.
Fig. 1344.


ANGLE.
Fig. 1345.

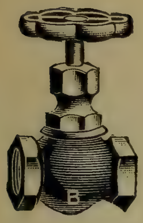

CHECK.
Fig. 1346.

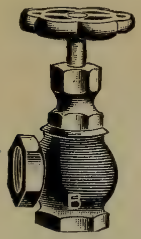
Size, inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe Valves, Each	$1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
Angle " "	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.75	15.75	22.00
Check " "	1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	20.50

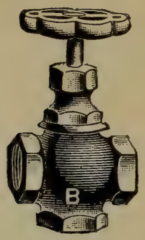
BRASS VALVES WITH FRINK DISC.

Size, inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe Valves, Each	$0.80	1.00	1.25	1.75	2.50	3.35	4.60	7 00	14.00	20.00
Angle " "	.80	1.00	1.25	1.75	2.50	3.35	4.60	7.00	14.00	20.00

STANDARD BRASS VALVES.


GLOBE.
Fig. 1347.


ANGLE.
Fig. 1348.


CROSS.
Fig. 1349.

SCREWED.

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4
Globe Valves, each	$0.72	.72	.77	1.00	1.26	1.80	2.52
Angle “ “	.72	.72	.77	1.00	1.26	1.80	2.52
Cross “ “	..	1.25	1.25	1.50	2.00	2.50	3.50

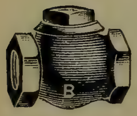
Size, inches	1 1/2	2	2 1/2	3	3 1/2	4
Globe Valves, each	$3.50	5.30	10.00	14.40	26.50	36.00
Angle “ “	3.50	5.30	10.00	14.40	26.50	36.00
Cross “ “	5.00	8.00	16.00	24.00	45.00	60 00

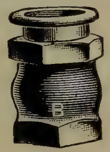
FLANGED.

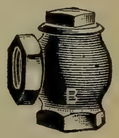
Size, inches	1/2	3/4	1	1 1/4	1 1/2	2
Globe Valves, each	$4.50	5.00	6.75	8.50	10.50	16.00
Angle “ “	4.50	5 00	6.75	8.50	10.50	16.00
Cross “ “	5.25	7.00	9.00	12.00	15.75	22.00

Size, inches	2 1/2	3	3 1/2	4	5	6
Globe Valves, each	$23.00	35.00	50.00	70.00	125.00	200.00
Angle “ “	23.00	35.00	50.00	70.00	125.00	200.00
Cross “ “	33.00	45.00	75.00	100.00	..	..

STANDARD BRASS CHECK VALVES.


HORIZONTAL.
Fig. 1350.


VERTICAL.
Fig. 1351.


ANGLE.
Fig. 1352.

Size, inches	1/8	1/4	3/8	1/2	3/4	1	1 1/4	1 1/2
Horizontal Check, Screwed, each	$0.65	.65	.70	.90	1.15	1.60	2.25	3.15
“ “ Flanged, “	..	..	..	4.40	4.90	6.50	8.25	10.15
Vertical “ Screwed, “	..	.72	.77	1.00	1.26	1.80	2.52	3.50
“ “ Flanged, “	..	..	..	4.50	5.00	6.75	8.50	10.50
Angle “ Screwed, “	.72	.72	.77	1.00	1.26	1.80	2.52	3.50
“ “ Flanged, “	..	..	..	4.50	5.00	6.75	8.50	10.50

Size, inches	2	2 1/2	3	3 1/2	4	5	6
Horizontal Check, Screwed, each	$4.75	9.00	13.00	24.00	32.50	..	..
“ “ Flanged, “	15.50	22.00	33.50	47.50	66.50	..	..
Vertical “ Screwed, “	5.30	10.00	14.40	26.50	36.00	..	..
“ “ Flanged, “	16.00	23.00	35.00	50.00	70.00	125.00	200.00
Angle “ Screwed, “	5.30	10.00	14.40	26.50	36.00	..	..
“ “ Flanged, “	16.00	23.00	35.00	50.00	70.00	125.00	200.00

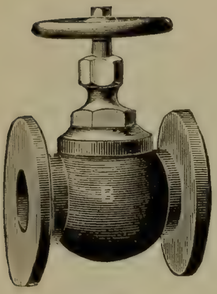
For dimensions of Valves, see page 390.

STANDARD EXTRA HEAVY BRASS GLOBE AND ANGLE VALVES.

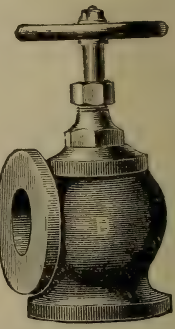
Size, inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4
Globe Valves, screwed, each.	1.25	1.45	1.85	2.50	3.50	5.25	7.00	10.50	20.00	27.00	50.00	65.00
" flanged, "	. .	. .	. .	. .	9.50	13.50	16.50	24.00	45.00	65.00	95.00	120.00
Angle Valves, screwed, "	1.25	1.45	1.85	2.50	3.50	5.25	7.00	10.50	20.00	27.00	50.00	65.00
" flanged, "	. .	. .	. .	. .	9.50	13.50	16.50	24.00	45.00	65.00	95.00	120.00

STANDARD IRON-BODY VALVES.

BRASS MOUNTED, FLANGED.



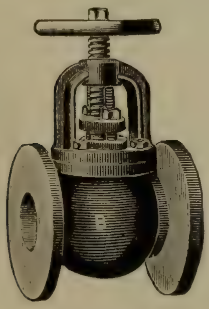
GLOBE.
Fig. 1353.



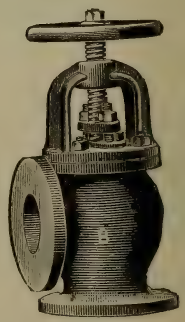
ANGLE.
Fig. 1354.

Size, inches	1	1¼	1½	2	2½	3
Globe Valves, flanged, each .	$3.25	3.85	4 80	7.00	9.00	12.50
Angle " " " .	3.25	3.85	4.80	7.00	9.00	12.50
Cross " " " .	. .	. .	. .	9.00	11.75	16.50

WITH YOKE, FLANGED.



GLOBE.
Fig. 1355.



ANGLE.
Fig. 1356.

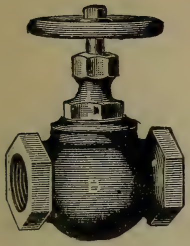
Size, inches	2	2½	3	3½	4	4½	5
Globe Valves, flanged, each	$8.60	10.75	15.00	18 50	22.50	27.50	31.00
Angle " " "	8.60	10.75	15.00	18.50	22.50	27.50	31.00
Cross " " "	11.00	14.50	20.00	25.00	28.50	36.00	41.00

Size, inches . . .	6	7	8	10	12	14	16
Globe Valves, flanged, each	$42.00	68.00	77.00	123.00	187.00	350.00	475.00
Angle " " "	42.00	68.00	77.00	123.00	187.00	350.00	475.00
Cross " " "	54.00	85.00	100.00	175.00	265.00	. .	. .

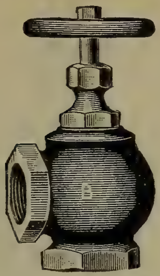
For dimensions of Flanged Globe, Angle and Cross Valves, see page 391.

STANDARD IRON-BODY VALVES.

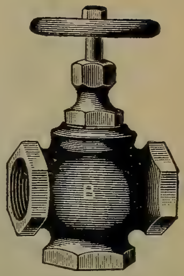
BRASS MOUNTED, SCREWED.



GLOBE.
Fig. 1357.



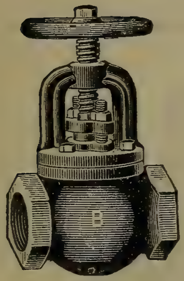
ANGLE.
Fig. 1358.



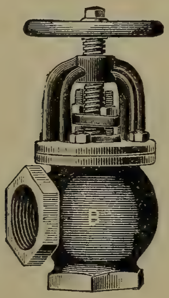
CROSS.
Fig. 1359.

Size, inches	1	1¼	1½	2	2½	3
Globe Valves, each	$2.25	2.75	3.50	5.40	7.35	9.80
Angle " "	2.25	2.75	3.50	5.40	7.35	9.80
Cross " "	..	..	..	6.50	9.00	12.50

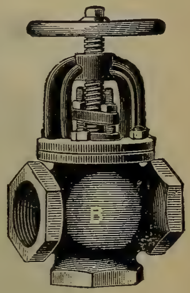
WITH YOKE—SCREWED.



GLOBE.
Fig. 1360.



ANGLE.
Fig. 1361.



CROSS.
Fig. 1362.

Size, inches	2	2½	3	3½	4	4½
Globe Valves, each	$7.00	9.00	12.50	15.25	19.00	24.00
Angle " "	7.00	9.00	12.50	15.25	19.00	24.00
Cross " "	8.50	11.75	16.25	20.00	23.50	30.65

Size, inches	5	6	7	8	10	12
Globe Valves, each	$27.00	37.50	63.00	72.00	114.00	170 00
Angle " "	27.00	37.50	63 00	72 00	114.00	170.00
Cross " "	35.25	47.25	78.00	92.00	162.00	240.00

For dimensions of Valves see page 390.

JENKINS BROS. GLOBE, ANGLE AND CROSS VALVES.

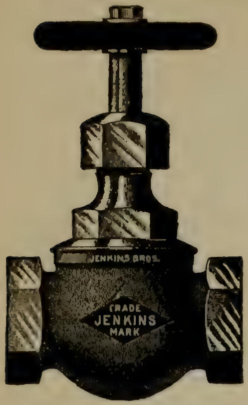


Fig. 1363.

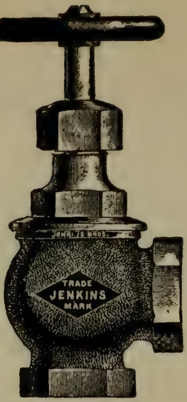


Fig. 1364.

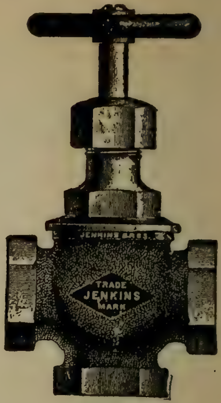


Fig. 1365.

Size	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Brass Globe and Angle Valves, screwed	$1.10	1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.00	15.75	22.00
" " " " flanged	..	..	..	..	..	6.00	9.00	11.00	16 50	25 00	34.00
Brass Cross Valves, screwed	..	1.70	2.00	2.25	2.50	3.25	4.75	6.25	9.50	20.00	27.50
" " flanged	..	..	..	..	..	8.64	11.45	15.10	22.70	32.82	44.30
Brass Hose End Globe and Angle Valves	..	..	..	..	..	3.30	4.70	6.50	9.15	17.10	23 35

JENKINS BROS. GLOBE AND ANGLE VALVES.

IRON BODY, COMPOSITION MOUNTED.

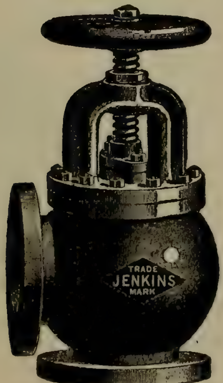


Fig. 1366.

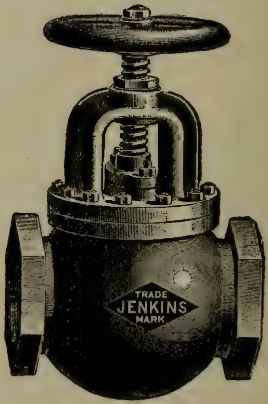


Fig. 1367.

Size	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6	7	8	10	12
Brass Hub, screwed	$2.75	2.85	3.85	5.00	7.25	11.00	16.00	..	..	..	..	..	..	..	..	..
" flanged	..	..	..	..	8.50	13.00	18.00	..	..	..	..	..	..	..	..	..
With Yoke, screwed	..	..	..	..	10.00	12.00	16.75	19.50	24 00	32.00	40.00	48.00	80.00	90.00	130 00	185.00
" flanged	..	..	..	..	11.75	14.00	18 50	21.50	26.00	34.00	42.00	50.00	80.00	90.00	130.00	185.00
Cross Valves, screwed	..	..	..	..	..	16.06	21.00	26.00	30.00	42.00	45.00	58.00	..	..	..	..
" flanged	..	..	..	..	..	19.00	24 00	29.00	33.00	45.00	48.00	62.00	..	..	..	..

Size	14	16	18	20	24
Globe and Angle Valves, with Yoke, flanged	$334.00	400.00	511.00	578.00	1222.00

For Dimensions of Flanged Globe, Angle and Cross Valves, see page 396.

JENKINS BROS. GATE VALVES.

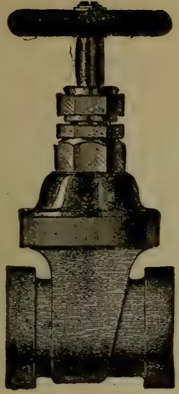


Fig. 1368.

Brass Gate Valve, Stationary Spindle Screwed.

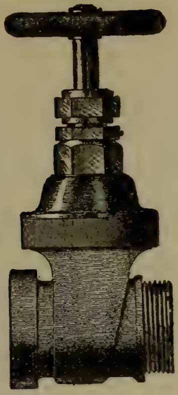


Fig. 1369.

Brass Hose Gate Valve.

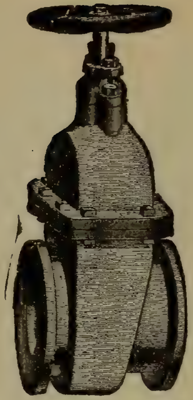


Fig. 1370.

Iron Body Gate, Composition Mounted, Flanged.

Size	½	¾	1	1¼	1½	2	2½	3
Brass Gate Valves, screwed	$2.00	2.50	3.25	4.25	5.25	7.50	14.00	20.00
" " " flanged	3.50	4.50	6.00	7.50	10.00	14.00	21.00	28.00
Brass Hose Gate Valves	..	..	3.70	4.95	6.15	8 75	15.75	22.00
Hose Caps, rough, without chain or swivel	..	.60	.75	1.15	1.50	2.00	2.50	..
" " finished, with chain	..	1.00	1.25	1.75	2.25	3.00	3.50	..

IRON BODY, COMPOSITION MOUNTED.

Size	2	2½	3	3½	4	4½	5	6	7	8	10	12
Gate Valves, screwed	$8.00	12.00	15.00	18.00	21.00	29.00	30.00	33.00	50.00	62.00	85.00	120.00
" " flanged	9.00	13.00	16.00	19.00	22.50	31.00	32 00	38.00	50.00	62.00	85.00	120.00
Hub or Spigot Gate Valves	9.00	12.00	15.00	18.00	21.00	29.00	30.00	36.00	50.00	62 00	85.00	120.00
Diam. of flanges—Gate Valves	6	7	7½	8½	9	9¼	10	11	12½	13½	16	19
Face to face—Gate Val. sc. and flanged	6	7¼	7⅝	7⅝	8⅜	8⅞	9½	10	11	12¼	1 ¼	14⅝

For sizes above 12 inches we furnish net prices.

JENKINS ALL IRON GATE VALVES.

FOR AMMONIA, ACIDS, ETC.

Size	½	¾	1	1¼	1½	2	2½	3	3½	4
Screwed	$3.25	3.25	3.75	4.50	5.25	8.25	10.00	12.25	15.00	18.25
Flanged	..	..	..	..	..	10.25	11.50	13.75	16.50	20.50

JENKINS BROS. ALL IRON GLOBE AND ANGLE VALVES.

FOR AMMONIA, ACIDS, ETC.

Size	½	¾	1	1¼	1½	2	2½	3
Screwed	$3.25	3.50	3.75	4.00	4.25	5.25	11.00	13.25
Flanged	4.10	4.25	4.50	4.75	5.25	6.50	12.50	14.50
Size	..	3½	4	4½	5	6	7	8
Screwed	..	15.50	17.50	25.75	27.00	33.25	43 25	52.00
Flanged	..	16.75	19.25	27 50	29.00	35.50	46.25	56.25

Please note that the discs used in these valves are warranted to stand ammonia. No regrinding, as it is not metal against metal.

For dimensions of Valves, see page 390.

IRON BODY, COMPOSITION MOUNTED DOUBLE GATE VALVES.

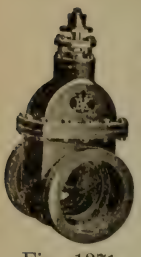


Fig. 1371.

These Valves are operated by a two-inch square nut on spindle, unless otherwise ordered. The bodies, caps, nuts, stuffing boxes and glands are made of cast iron; the gates are also cast-iron, faced with composition. The seats are of composition, firmly held to the body according to the most approved practice. The stems are large and strong, to prevent twisting, and of solid gun-metal composition, and are all interchangeable.

These Valves are specially constructed for street mains, and are extra strong, to withstand rough usage.

Diameter of opening, inches	2	3	4	5	6	8	10	12	14	16	18	20	24
End to end of pipe when laid in bell	3	3¼	4	5	5	5¼	6	6¾	7¼	7½	8½	8¾	9½
Diameter of bell socket .	3⅛	4⅝	5¾	6⅞	7⅞	10	12	14¼	16¼	18½	20½	22¾	26¾

PRICE LIST.

Diameter of opening, inches	2	3	4	5	6	8	10	12	14	16	18	20	24
Bell or spigot end . .	$10.00	15.00	20.00	25.00	30.00	53.00	70.00	95.00	..	..	..	..	..

COMPOSITION WEDGE GATE VALVES WITH SOLID BRONZE SEATS.

STATIONARY OR RISING SPINDLES. FOR STEAM AND WATER.

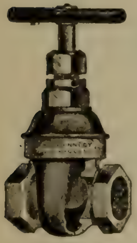


Fig. 1372.

These Valves have a straightway passage the full diameter of connecting pipes.

Diameter of opening, inches . . .	⅜	½	¾	1
Face to face, screw ends	2 3/16	2⅜	2¾	3⅜
Face to face, flange ends	2½	2 9/16	3	3 9/16
Diameter of flanges	2½	3	3	4
Screw ends, each	$1.20	1.30	1.75	2.25
Flange ends "	2.25	2.50	3.00	4.00

Diameter of opening, inches . .	1¼	1½	2	2½	3	3½	4
Face to face, screw ends . . .	3 11/16	4	4¾	5½	6½	8¼	8⅞
Face to face, flange ends . . .	3 15/16	4 5/16	5¼	5¾	7	8¼	8⅞
Diameter of flanges	4½	5	6	7	7	8½	9
Screw ends, each	$3.25	4.25	6.25	11.50	16.00	30.00	38.00
Flange ends, "	5.00	7.50	10.00	16.00	20.00	39.00	46.00

GLOBE, ANGLE AND CROSS VALVES FOR HIGH STEAM PRESSURE.

WITH IMPROVED COMPOSITION DISC.

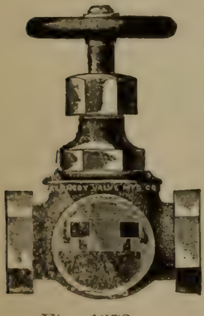
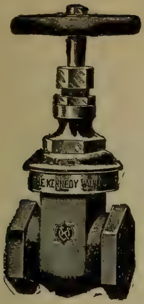


Fig. 1373.

Diam. of opening, inches . .	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Globe and Angle, screw ends	$1.10	1.25	1.60	2.20	2.80	4.00	5.50	8.00	15.75	22.00
Globe and Angle, flange ends	..	..	..	..	6.00	9.00	11.00	16.50	25.00	34 00
Cross Valves, screw ends	1.70	2.00	2.25	2.50	3.25	4.75	6.25	9.50	20.00	27.50
Discs for Valves	.04	.05	.06	.07	.08	.12	.16	.24	.32	.40

COMPOSITION STANDARD WEDGE GATE VALVES.



STATIONARY SPINDLE.
Fig. 1374.

WITH EITHER SCREW OR FLANGE ENDS. FOR STEAM OR WATER.

Either Stationary or Rising Spindles, as ordered.

The gates or plugs of these Valves are constructed of one piece, guided in the body by ribs or splines, which take the strain, thus preventing contact till seated. These gates can easily be renewed should it become necessary, at a slight expense all parts being interchangeable. Either end can be used for inlet or outlet.

Diameter of opening, inches .	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Face to face, screw ends . .	2¼	2⅝	3	3¼	3½	4¼	4¾	4⅞	5¾	6	7	. .
Face to face, flange ends . .	. .	3	3	3½	4	4¾	5½	6	6¼	7	8	9
Diameter of flanges . . .	3	3	4	4½	5	6	6½	7	7½	9	10	11

PRICE LIST.

Diam. of opening, inches	⅜	½	¾	1	1¼	1½	2	2½	3	3½	4	5	6
Screw ends . .	$1.40	1.40	1.80	2.50	3.50	5.00	7.50	14.00	20.00	32.00	40.00	55.00	78.00
Flange ends . .	2.50	2.75	3.50	4.50	5.50	7.50	12.00	18.00	25.00	40.00	48.00	66.00	94.00

IRON BODY COMPOSITION MOUNTED DOUBLE GATE VALVES.

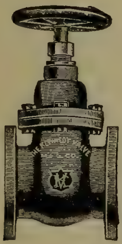


Fig. 1375.

Steam and Water Valves to bear heavy pressure either side of gate. The bodies, caps and wheels of these Valves are made of cast-iron and composition stuffing boxes and spindles. The gates are also of cast-iron, faced with best composition metal.

BOLTED TOP.

Diameter of opening, inches .	1½	2	2½	3	3½	4	4½	5	6
Face to face, screw ends . .	4	5	6	6¼	6¾	7	7⅝	8	8⅝
Face to face, flange ends . .	5¼	6	6⅛	7½	7½	8¼	8½	9⅛	9⅞
Diameter of flanges . . .	5	6	7	8	8½	9	9½	10	11

Diameter of opening, inches . .	7	8	9	10	12	14	16	18	20	24
Face to face, screw ends . . .	10	10¼	11½	11½	13¼	. .	. .	. .	. .	. .
Face to face, flange ends . . .	10⅝	11	11¾	12¼	13¼	14⅛	14⅛	15⅛	16	17¼
Diameter of flanges	12	13	15	16	18	21	23	25	27	31

PRICE LIST.

Diameter of opening, inches.	2	2½	3	3½	4	4½	5	6	7	8	9	10	12
Screw ends .	$10.00	12.00	15.00	18.00	20.00	23.00	25.00	30.00	43.00	53.00	60.00	70.00	95.00
Flange ends .	10.00	12.50	15.50	19.00	21.00	24.00	27.00	32.00	43.00	53.00	60.00	70.00	95.00

WITH SLIDING STEM AND LEVER.

Diam. of opening inches	2½	3	3½	4	4½	5	6	7	8	9	10	12
Screw ends . .	$16.00	20.00	22.00	25.00	28.00	30.00	35.00	48.00	58.00	65.00	75.00	100.00
Flange ends . .	16.00	20.00	22.50	25.00	28.50	32.00	37.00	48.00	58.00	65.00	75.00	100.00

Prices on all size Valves from 12 to 48 inches given on application.

DIMENSIONS OF JENKINS BROS. VALVES.

IRON BODY VALVES.

Size, inches		2	2½	3	3½	4	4½	5	6	7	8	9	10	12
A	Screwed	6½	8	9⅜	10	11⅞	13	13¼	16	16½	18⅝	20¼	21½	25¾
	Flanged	7	7½	9¼	10	11¾	12½	13	16	16	18½	20	21¼	24½
B	Screwed	3¼	3⅞	4 11/16	5	5 15/16	6 3/16	6⅝	8	8¼	9⅜	10	10¾	12⅞
	Flanged	3⅞	4½	4⅝	5⅜	5⅞	6¼	6½	8	8	9¼	10	10⅝	12¼
C		6	7	7½	8½	9	9¼	10	11	12½	13½	15	16	19
D		¾	13/16	⅞	15/16	1	1 1/16	1⅛	1 3/16	1¼	1 5/16	1⅜	1 7/16	1 9/16
E		8⅞	10½	12⅛	13	14⅞	15¼	16⅝	17⅝	20¼	21⅝	22½	24½	30½

BRASS VALVES.

Size, inches		½	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
A	Screwed	2¾	3 5/16	3 15/16	4¼	4 13/16	5¾	6⅝	8½	10	11⅞	13	13¼	16
	Flanged	3 1/16	3 9/16	4	4⅜	4⅞	5 15/16	6 11/16	7 7/16	10	11¾	12½	13	16
B	Screwed	1⅜	1½	1 13/16	2 1/16	2¼	2 13/16	3¼	4¼	5	5 15/16	6 3/16	6⅝	8
	Flanged	2 1/16	2⅜	2⅝	2 15/16	3 3/16	3¾	4	4 9/16	5⅜	5⅞	6¼	6½	8
C		3	3½	4	4½	5	6	6½	7½	8½	9	9¼	10	11
D		⅜	13/32	7/16	15/32	½	17/32	9/16	⅝	15/16	1	1 1/16	1⅛	1 3/16
E		4⅝	4⅝	5½	6⅞	7	8⅝	9⅛	9⅞	13	14⅞	15¼	16⅝	17⅝

A—Face to Face, Globe and Check. B—Centre to Face, Angle and Check. C—Diameter of Flanges. D—Thickness of Flanges. E—Height when open—Centre of pipe to top of hand-wheel.

DIMENSIONS OF STANDARD IRON BODY GLOBE VALVES.

Size, inches	2	2½	3	3½	4	4½	5	6	7	8	10	12
Diameter of Flanges, inches	6	7	7½	8½	9	9¼	10	11	12½	13½	16	19
Distance Face to Face, "	5⅝	7⅜	7⅜	9⅜	11	11	12	13½	16	16	19½	22½

DIMENSIONS OF STANDARD IRON BODY ANGLE VALVES.

Size, inches	2	2½	3	3½	4	4½	5	6	7	8	10	12
Diameter of Flanges, inches	6	7	7½	8½	9	9¼	10	11	12½	13½	16	19
Distance Centre to Face, "	3⅞	4½	4⅝	5⅜	5⅞	5⅞	6⅜	7⅛	7¾	8¼	9½	11

DIMENSIONS OF STANDARD IRON BODY CROSS VALVES.

Size, inches	2	2½	3	3½	4	4½	.5	6	8
Diameter of Flanges, inches	6	7	7½	8½	9	9¼	10	11	13½
Distance Face to Face, "	5⅝	7⅜	7⅜	9⅜	11	11	12	13½	16
Distance Centre to Inlet, inches	3⅞	4½	4⅝	5⅜	5⅞	5⅞	6⅜	7⅛	8¼

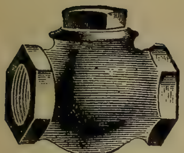
DIMENSIONS OF STANDARD IRON BODY CHECK VALVES.

Size, inches	2	2½	3	3½	4	4½	5	6	7	8	10	12
Diameter of Flanges, inches	6	7	7½	8½	9	9¼	10	11	12½	13½	16	19
Distance Face to Face of Horizontal or Vertical, inches	5⅜	7⅜	7⅜	9⅜	11	11	12	13½	16	16	19½	22½
Distance Centre to Face of Angle, inches	3⅞	4½	4⅝	5⅜	5⅞	5⅞	6⅜	7⅛	7¾	8¼	9½	11

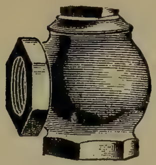
THE BURNET COMPANY, NEW YORK.

STANDARD IRON-BODY CHECK VALVES.

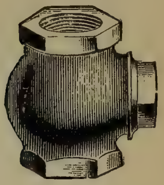
Brass Mounted.



HORIZONTAL.
Fig. 1376.



ANGLE.
Fig. 1377.



VERTICAL.
Fig. 1378.

SCREWED.

Size, inches	1	1¼	1½	2	2½	3	3½	4
Horizontal, each	$1.50	2.20	2.65	3.60	6.50	8.90	12.25	14.25
Angle, "	1 50	2.20	2.65	3.60	6.50	8.90	12.25	14.25
Vertical "	..	..	..	7.00	9.50	12.50	17.00	21.00

Size, inches	4½	5	6	7	8	10	12
Horizontal, each	$19.00	22.00	30.00	45.00	57.00	105.00	155.00
Angle, "	19.00	22.00	30.00	45.00	57.00	105.00	155.00
Vertical, "	30.00	33.00	40.00	62.00	73.00	..	..

FLANGED.

Size, inches	1	1¼	1½	2	2½	3	3½	4	4½
Horizontal, each	$2.50	3.25	4.00	5.25	8.25	11.50	15.50	18.00	22.50
Angle, "	2.50	3.25	4.00	5.25	8.25	11.50	15.50	18.00	22.50
Vertical, "	..	..	..	8.75	11.50	15.00	20.00	25.00	33.50

Size, inches	5	6	7	8	10	12	14	16
Horizontal, each	$26.00	35.00	50.00	62.00	115.00	175.00	300.00	425.00
Angle, "	26.00	35.00	50.00	62.00	115.00	175.00	..	..
Vertical, "	37.00	45.00	67.00	78.00	..	..	..	..

JENKINS BROS. CHECK VALVES.

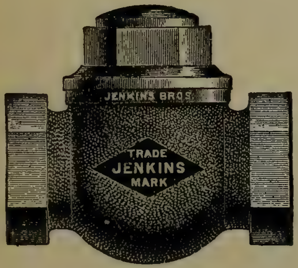


Fig. 1379.

HORIZONTAL, BRASS SCREWED.

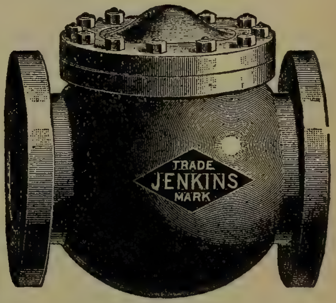


Fig. 1380.

HORIZONTAL IRON BODY FLANGED.

Size, inches	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Brass, Horizontal, Angle and Vertical, screwed	$1.10	1.20	1.30	1.90	2.60	3.60	5.00	7.50	13.50	20.50
Brass, Horizontal, Angle and Vertical, flanged	..	..	..	4.75	5.50	7.80	9.80	15.00	22.80	32.40

Size, inches	2½	3	3½	4	5	6
Iron Body, Horizontal, Angle and Vertical, screwed	$10.50	14.00	17.00	20.00	30.00	40.00
Iron body, Horizontal, Angle and Vertical, flanged	12.50	16.50	20.00	25.00	33.00	43.00

For dimensions of Flanged Check Valves see page 390.

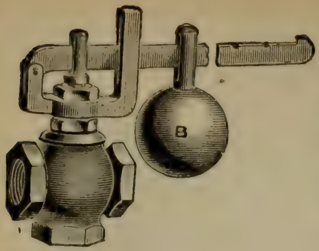


Fig. 1381.

SAFETY VALVES.

BRASS.

Size,	. Inches,	¼	⅜	½	¾	1
Globe or Angle	.	$2.20	2.50	3.25	3.90	4.70
Size,	. Inches,	1¼	1½	2	2½	3
Globe or Angle	.	$7.15	9.00	12.50	22 50	33.50

IRON BODY SAFETY VALVES.

Size, ...	Inches,	¾	1	1¼	1½	2	2½	3
Globe or Angle, Screwed,	Each,	$3.50	4.00	5.00	5.80	7.80	13.25	17.25
Globe or Angle, Flanged,	"	. .	5.50	6.75	7.75	10 25	16.00	21.50
Size, ...	Inches,	3½	4	4½	5	6	7	8
Globe or Angle, Screwed,	Each,	$23.00	28.75	34.50	41.50	57.75	93.50	132.00
Globe or Angle, Flanged,	"	27.50	34.00	40.00	48.00	65.00	100.00	140.00

IRON BODY BACK-PRESSURE VALVES.

Size, . .	Inches,	1½	2	2½	3	3½	4	4½	5
Screwed, .	Each,	$9.00	11.00	13.00	15.00	19.00	22.50	28.50	33.50
Flanged, .	"	10.50	12.75	15.00	17.50	22.00	26.00	32 00	37.00
Size, . .	Inches,	6	7	8	10	12	14	16	. .
Screwed, .	Each,	$43.00	70.00	85.00	120.00	180.00	. .	. .	. .
Flanged, .	"	47.00	75.00	90.00	130.00	200.00	350.00	475.00	. .

DAVIS NOISELESS BACK-PRESSURE VALVES.

Size, . . .	Inches,	2	2½	3	3½	4	4½	5	6	7
Screwed, . .	Each,	$14.00	16.00	18.00	22.00	25.00	30.00	40.00	60.00	80.00
Flanged, . .	"	14.00	16.00	18.00	22.00	25.00	30.00	40.00	60.00	80.00
Diam. of Flanges .	Inches,			7½	8	8½	9	10	11	13
Size, . . .	Inches,	8	10	12	14	16	18	20	22	24
Flanged, . .	Each,	$100.00	145.00	220.00	345.00	465.00	600.00	750.00	900.00	1050.00
Diam. of Flanges, .	Inches,	14	17	19	20	23	25	27	29	32

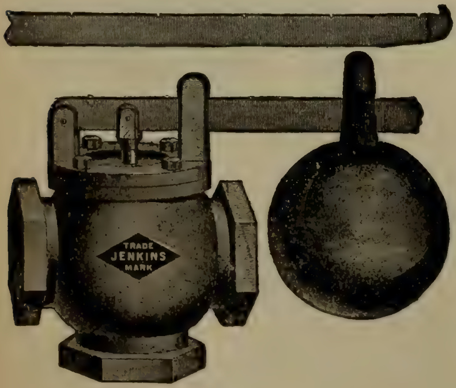


Fig. 1382.

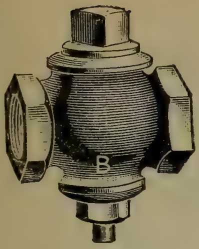
JENKINS BROS.

SAFETY VALVES.

Size . .	½	¾	1	1¼	1½	2
Brass sc. . .	$4.12	4.95	5.50	8.25	10.15	15.40
Size . .	¾	1	1¼	1½	2	2½
Iron Body sc. .	$4.25	4 50	6.25	7.25	10.25	16.75
Size . .	3	3½	4	4½	5	6
Iron Body sc. .	$22.00	31.00	38.00	46.50	55.00	73.00
Size . .	. .	. .	2	2½	3	3½
Iron Body fl'g'd,	. .	. .	12.25	19.00	25.50	34.00
Size . .	. .	. .	4	4½	5	6
Iron Body fl'g'd,	. .	. .	41.50	51.75	62.00	80 00

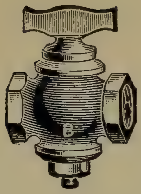
Size . .	2	2½	3	3½	4	4½	5	6
Diam of fl'g.	6	7	7½	8½	9	9¼	10	11

BRASS STEAM COCKS.



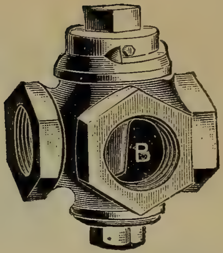
SQUARE HEAD.

Fig 1383.



T HANDLE.

Fig. 1384.



3-WAY.

Fig. 1385.

Size,	Inches,	⅛	¼	⅜	½	¾	1	1¼
Steam Cocks, Square Head, Flat Head, Tee Handle,	Each,	$0.85	.85	1.00	1.25	1.70	2.35	3.70
“ “ with Check,	“	1.00	1.00	1.15	1.40	1.90	2.55	3.95
“ “ Male and Female,	“	1.35	1.35	1.45	2.00	2.50	3.00	5 35
“ “ 3-Way,	“	. .	. .	. .	2.50	3.00	3.75	5.75
“ “ Flanged	“	. .	. .	. .	4.75	5.50	7.30	9.70
“ “ 3-Way, Flanged,	“	. .	. .	. .	7.75	8.75	11.25	14.75
“ “ Extra Heavy, Screwed,	“	1.30	1.30	1.50	2.00	2.85	4.00	6.75
“ “ Extra Heavy, Flanged,	“	. .	. .	. .	6.50	7.75	10.00	14.25

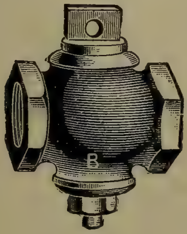
Size,	Inches,	1½	2	2½	3	3½	4	5	6
Steam Cocks, Square Head, Flat Head, Tee Handle,	Each,	$4.85	7.30	14.50	22.50	38.50	50.00	. .	. .
“ “ with Check,	“	5.15	7.65	15.00	23.25	. .	. .	. .	. .
“ “ Male and Female,	“	6.75	9.85	17.50	25.75	. .	. .	. .	. .
“ “ 3-Way,	“	7.15	11.00	18.75	26.00	50.00	70.00	. .	. .
“ “ Flanged,	“	11.75	18.00	27.50	43.00	62.00	84.00	150.00	275.00
“ “ 3-Way Flanged,	“	17.75	27.00	38.25	57.00	85.00	121.00	. .	. .
“ “ Extra Heavy, Screwed,	“	8.50	13.50	25.00	37.00	54.00	75.00	. .	. .
“ “ Extra Heavy, Flanged,	“	17.25	27.00	41.00	63.00	84.00	120.00	. .	. .

BRASS STEAM COCKS.

WITH LONG IRON HANDLE.

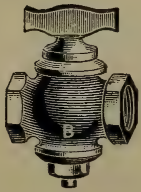
Size,	Inches,	½	¾	1	1¼	1½	2
Price,	Each,	$1.35	1.85	2.60	4.10	5 25	7.80

BRASS SERVICE COCKS.



FLAT HEAD.

Fig. 1386.



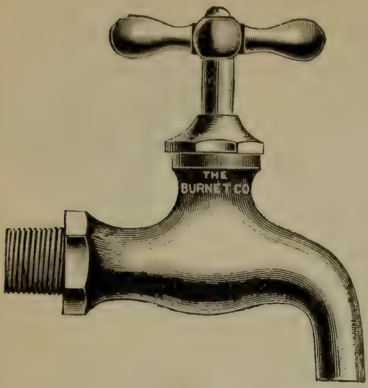
T HANDLE.

Fig. 1387.

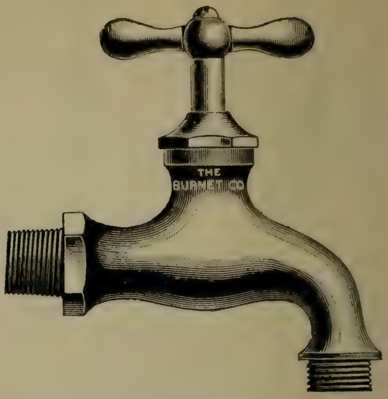
Size,	Inches,	⅛	¼	⅜	½	¾	1	1¼	1½	2	2½	3
Gas, Service, Cocks, Square Head, Flat Head, Tee Handle,	Each,	$0.75	.75	.85	.95	1.15	1 50	2.25	3.10	5.00	11.00	16.00
Gas Cocks, Extra Heavy,	“	. .	.85	.95	1.05	1.30	1.70	2.60	3.60	6.50	12.00	18.00

COMPRESSION BIBBS SCREWED FOR IRON PIPE.

FINISHED.



PLAIN.
Fig. 1388.



HOSE.
Fig. 1389.

PLAIN.

Size, . . .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
For Iron Pipe, .	Per doz.,	$12.00	13.00	15.00	20.00	37.00	56.00	86.00	170.00
For Lead Pipe, .	" "	10.00	11.00	13.00	18.00	34 00	52.00	80.00	160.00

HOSE.

Size, . . .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
For Iron Pipe, .	Per doz.,	$14.00	15.00	17.00	22.00	40.00	60.00	92.00	180.00
For Lead Pipe, .	" "	12 00	13 00	15.00	20.00	37.00	56.00	86.00	170.00

SELF-CLOSING PLAIN BIBBS.

(TELEGRAPH FAUCETS.)

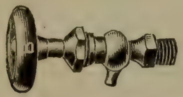
Telegraph Handle. Screwed for Iron Pipe.

Size, .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Finished,	Per doz.,	$16.00	18.00	21.00	28.00
Nickel-plated,	"	18.00	20.50	23.50	30.50

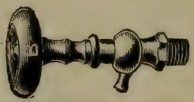
Flange and Thimble.

Size, .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$
Finished,	Per doz,	$22.00	26.00	30.00	42.00
Nickel-plated,	"	24.00	28.50	32.50	44.50

COMPRESSION GAUGE COCKS.



WOOD WHEEL WITH STUFFING BOX.
Fig. 1390.



WOOD WHEEL WITHOUT STUFFING BOX.
Fig. 1391.

Size, .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
Price, .	Each,	$1.35	1.50	1 70

Size, .	Inches,	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$
Price, .	Each,	$1.10	1.20	1 35

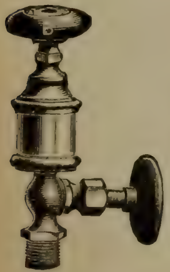


Fig. 1392.

LUBRICATORS.

(BRASS.)

Diameter of Body, inches,	1	$1\frac{1}{4}$	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Pipe Size, . "	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
Each	$2.00	2.20	2.40	2.60	2.90
Diameter of Body, inches,	$2\frac{1}{4}$	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Pipe Size, . "	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{4}$
Each, ...	$3.25	3 75	4.75	7.00	10.00

Iron Wheel on Valve Stem will be furnished when so ordered.

THE "LACKAWANNA" PATENT GREASE CUP.

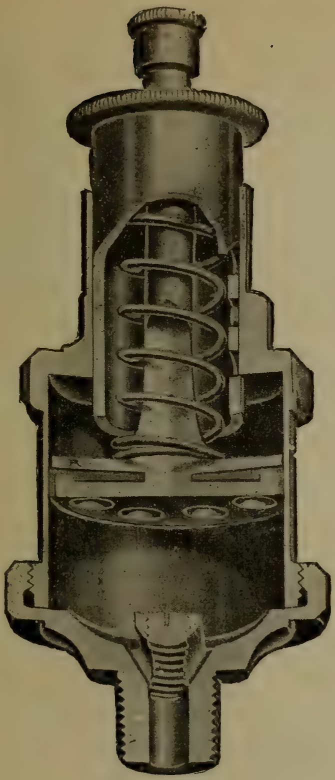


Fig. 1393.

PRICE LIST.

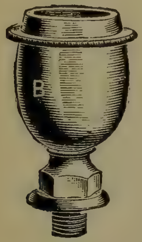
Capacity	$\frac{1}{3}$ Oz.	1 Oz.	2 Oz.
Brass, . . . Each,	$1.25	1.85	2.25
Prass, Polished, . . "	1.50	2.25	2.75
Size of Shanks, Pipe Thread,	$\frac{1}{4}$ in	$\frac{3}{8}$ in.	$\frac{1}{2}$ in.
Diameter Through Bore .	1$\frac{1}{4}$in.	2 in.	2$\frac{1}{2}$ in.

Capacity	4 Oz.	6 Oz.	8 Oz.
Brass, . . . Each,	$2.80	3.15	3.50
Brass, Polished, . . "	3.25	3.75	4.50
Size of Shanks, Pipe Thread,	$\frac{1}{2}$ in.	$\frac{3}{4}$ in.	$\frac{3}{4}$ in.
Diameter Through Bore .	3 in.	3$\frac{1}{2}$ in.	3$\frac{1}{2}$ in.

Nickel Plating Charged Extra at Cost.

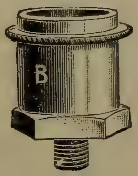
All orders filled with polished cups unless otherwise ordered. Cups can be furnished with blank shanks of any diameter desired *without extra charge.* An additional charge of 10 per cent. for shanks with special threads. All parts are made to gauge and are thoroughly interchangeable.

OIL CUPS.



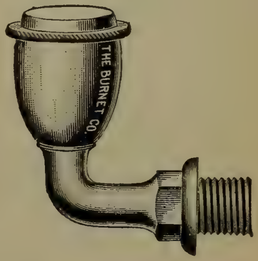
PLAIN.

Fig. 1394.



LOCOMOTIVE.

Fig. 1395.


THE BURNET CO.

ELBOW SHANK.

Fig. 1396.

Diam. of Cup, inches,	$\frac{5}{8}$	$\frac{3}{4}$	$\frac{7}{8}$	1	1$\frac{1}{8}$	1$\frac{1}{4}$	1$\frac{1}{2}$	1$\frac{3}{4}$	2	2$\frac{1}{4}$	2$\frac{1}{2}$	2$\frac{3}{4}$	3
Size Iron Pipe Thread,	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$	$\frac{3}{4}$	$\frac{3}{4}$
Plain, . . Each,	$0.25	.30	.35	.40	.50	.60	.90	1.25	1.75	2.25	2.75	3.50	4.00
Locomotive "	..	..	.40	.50	..	.75	1.00	1.50	2.00	..	..	..	..
Elbow Shank, "	..	..	1.00	1.40	1.80	2.00	2.80	3.60	4.60	..	..	..	..

"THE SAFETY" ROD OIL CUP.

(PATENTED)

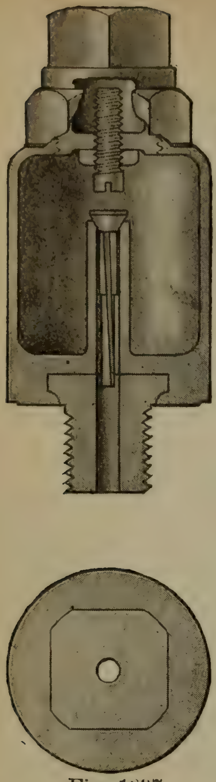


Fig. 1397.

The Oil Cup shown herewith is adapted for Main Rods, Side Rods and Eccentrics.

The cup is of best bronze, and cast solid with the base is the steel shank, with a square head, as shown in the cut. This steel shank being cast with and forming an integral part of the oil cup, does away with the great source of expense resulting from the loss of nine-tenths of all other rod cups, from the shanks breaking in service, and the cups being thrown off and lost.

It is most economical with oil, having a loose valve that works up and down, similar to a check valve, when the engine is in motion. The lift of valve is regulated by adjusting screw and lock-nut, as clearly shown in cut. Cup is filled without changing the regulation, and when closed is absolutely dust-proof.

No.	1	2
Outside diameter of Cup . . .	$2\frac{7}{16}$ ins.	$2\frac{1}{16}$ ins.
Height of Cup	$4\frac{5}{8}$ ins.	$4\frac{1}{16}$ ins.
Capacity	5 ozs.	$2\frac{1}{2}$ ozs
Size of Shank, blank	$\frac{7}{8}$ in.	$\frac{7}{8}$ in.
Price, each	$4.00	3.50

GUIDE AND BEARING OIL CUP.

(PATENTED.)

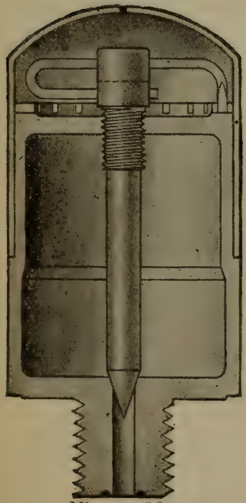


Fig. 1398.

The cup shown herewith is made of best bronze, extra heavy, strong and nicely finished. The construction and feed is clearly shown in illustration. Fine needle valve adjustment and rim of body notched to receive spring catch, carried on valve-stem, so that the feed may be locked at any desired position.

No.	3	4
Outside diameter of Cup	$2\frac{1}{4}$ ins.	$1\frac{7}{8}$ ins.
Height of Cup . .	$4\frac{1}{8}$ ins.	$2\frac{7}{8}$ ins.
Capacity . . .	$4\frac{1}{2}$ ozs.	2 ozs.
Size of Shank, blank .	1 in.	$\frac{7}{8}$ in.
Price, each . . .	$4.00	3.50

WICK OILER.

The tip shown herewith is designed for use, with the Guide Cup illustrated above, for oiling valve-stem or piston rod. A cored passage allows free flow of oil to the wick, and the wick furnishes constant lubrication to the rod or valve-stem. The tip may be secured in position on gland stud through hole just above wick. Price $1.25

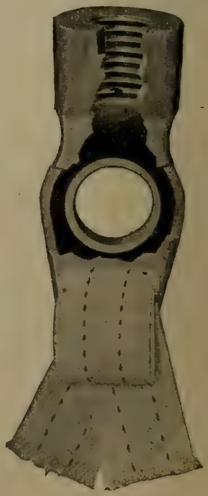


Fig. 1399

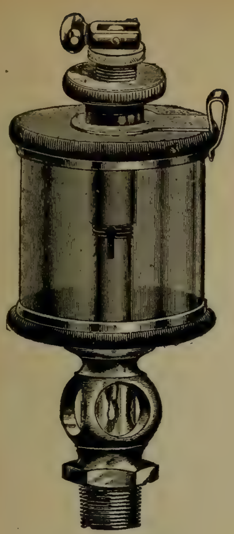


Fig. 1400.

GLASS BODY OIL CUP,

WITH QUICK STOP DROP LEVER AND SIGHT FEED.

As a Signal Cup there is none equal to it. They are provided with a reliable and simple attachment whereby the cup may be started or stopped instantly, and the engineer can also tell at a glance whether the cup is feeding or not. They are easily flushed by simply pulling up the lever.

PRICE LIST.

Size.	Capacity.	Diameter of Glass.	Size of Shank. Thread. Iron Pipe.	Brass Finished. Each.	Nickel Plated. Each.	Extra Glass. Each.
1	1 ounce.	1½ inches.	¼ inch	$2.75	$3.00	$0.10
3	1½ “	1¾ “	⅜ “	3.10	3.40	.10
5	2¼ “	2 “	⅜ “	3.50	3.90	.12
7	3½ “	2¼ “	⅜ “	4.00	4.40	.15
9	4½ “	2½ “	⅜ “	5.00	5.50	.25
11	8 “	3 “	½ “	7.00	7.60	.35
15	1 pint.	3½ “	½ “	8.00	8.75	.50
17	1½ “	3½ “	¾ “	9.00	10.00	.65

GLASS OIL CUPS,

WITH STOP LEVER.

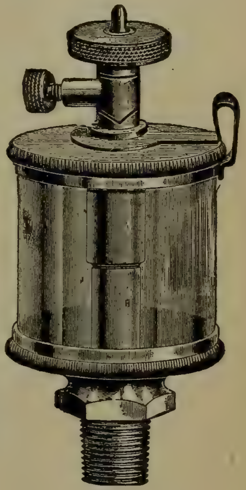


Fig. 1401.

Fig. 1401, Glass Oil Cups are constructed the same as Fig. 1404, except they are not provided with a sight feed. These cups are easily and quickly taken apart for cleaning without a wrench, and feed uniformly at all times.

PRICE LIST.

Size.	Capacity.	Diameter of Glass.	Size of Shank Thread. Iron Pipe.	Brass Finished. Each.	Nickel Plated. Each.	Extra Glass. Each.
2 A	1 oz.	1½ in.	¼ in.	$2.20	$2.45	$0.10
2½ B	1½ “	1¾ “	⅜ “	2.40	2.70	.10
3 C	2¼ “	2 “	⅜ “	2.80	3.20	.12
4 D	3½ “	2¼ “	⅜ “	3.25	3.65	.15
5 E	4½ “	2½ “	⅜ “	4.25	4.75	.25
6 F	8 “	3 “	½ “	5.80	6.40	.35
6½ G	1 pt	3½ “	½ “	7.00	7.75	.50
7 H	1½ “	3½ “	¾ “	8.00	9.00	.65

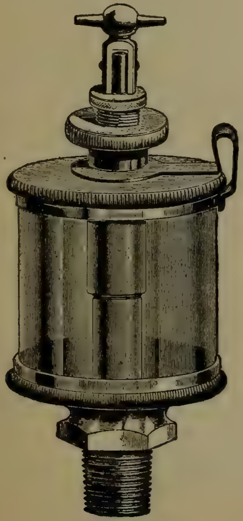


Fig. 1402.

GLASS BODY OIL CUP.

WITH QUICK STOP DROP LEVER.

Same as our Fig. 1400, except that they are not provided with a sight feed. They are finely finished and give the best satisfaction. The cup can be flushed without disturbing the the feed adjustment and does not become disturbed by jarring.

PRICE LIST.

Size.	Capacity.	Diameter of Glass.	Size of Shank Thread Iron Pipe.	Brass Finished. Each.	Nickel-Plated. Each.	Extra Glass. Each.
2	1 oz.	1½ in.	¼ in.	$2.20	$2.45	$0.10
4	1½ “	1¾ “	⅜ “	2.40	2.70	.10
6	2¼ “	2 “	⅜ “	2.80	3.20	.12
8	3½ “	2¼ “	⅜ “	3.25	3.65	.15
10	4½ “	2½ “	⅜ “	4.25	4.75	.25
12	8 “	3 “	½ “	5.80	6.40	.35
14	1 pt.	3½ “	½ “	7.00	7.75	.50
16	1½ “	3½ “	¾ “	8.00	9.00	.65

Cups are sent regular pipe thred shanks, as per above list, unless otherwise specified.

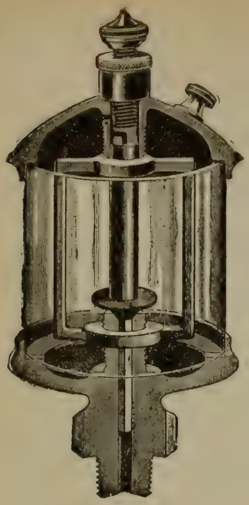


Fig. 1403.

IMPROVED

AUTOMATIC CRANK-PIN OILER.

Feeds Oil at every revolution of the Crank.

Stops Feeding when the Engine Stops.

The Feed is adjusted by turning the regulating stem, to which is attached a lock nut to fasten same when properly adjusted.

The construction of this Cup is such that it insures feed on high or low speed engines. When the engine stops the valve drops to the bottom and closes the outlet, stopping the flow of oil automatically.

PRICE LIST.

Size, No.	2	3	5	6	6½	7
Capacity,	1 oz.	2½ oz.	4½ oz.	8 oz.	1 pt.	1½ pt.
Diameter of Glass,	1½ in.	2 in.	2½ in.	3 in.	3½ in.	3½ in.
Size of Shank, Iron Pipe,	¼ in.	⅜ in.	⅜ in.	½ in.	½ in.	¾ in.
Brass Finished, Each,	$2.20	2.80	4.25	5.80	7.00	8.00
Nickeled, Each,	2.45	3.20	4.75	6.40	7.75	9.00
Extra Glasses, Each,	.10	.12	.25	.35	.50	.65

GLASS OIL CUPS, WITH STOP LEVER.

Finest Oil Cups made. Feed can be adjusted to suit with thumb nut, and locked with screw; then can be instantly stopped or started with the lever shown in the cut. These Cups can be readily flushed without interfering with the feed adjustment, and will not become moved or disturbed by jarring. They are made heavy and strong and finely finished.

PRICE LIST.

Size.	Capacity.	Diameter of Glass.	Size of Shank Thread. Iron Pipe.	Brass Finished. Each.	Nickeled, Each.	Extra Glasses. Each.
A	1 oz.	1½ in.	¼ in.	$2.75	$3.00	$0.10
B	1½ "	1¾ "	⅜ "	3.10	3.40	.10
C	2¼ "	2 "	⅜ "	3.50	3.90	.12
D	3½ "	2¼ "	⅜ "	4.00	4.40	.15
E	4½ "	2½ "	⅜ "	5.00	5.50	.25
F	8 "	3 "	½ "	7.00	7.60	.35
G	1 pt.	3½ "	½ "	8.00	8.75	.50
H	1½ "	3½ "	¾ "	9.00	10.00	.65

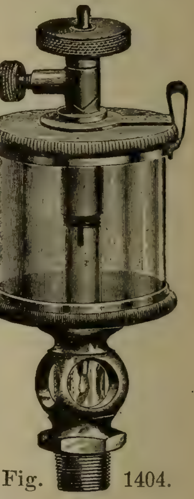


Fig. 1404.

GLASS OIL CUPS, WITH INDEX FEED.

The Cups are simple, reliable and handsomely finished. The adjusting valve is held under spring pressure, and when set for a desired feed will not be moved or disturbed by jarring. They are a very substantial and reliable article at a low price.

PRICE LIST.

No.	Capacity.	Diameter of Glass.	Size of Shank Thread. Iron Pipe.	Brass Finished. Each.	Nickeled. Each.	Extra Glasses. Each.
1	¾ oz.	1¼ in.	¼ in.	$1.60	$1.80	$0.08
2	1 "	1½ "	¼ "	1.80	2.00	.10
2½	1½ "	1¾ "	⅜ "	2.10	2.35	.10
3	2¼ "	2 "	⅜ "	2.50	2 80	.12
4	3½ "	2¼ "	⅜ "	2.90	3.25	.15
5	4½ "	2½ "	⅜ "	3.90	4.30	.25
6	8 "	3 "	½ "	5.00	5.60	.35
6½	1 pt.	3½ "	½ "	6.00	6.75	.50
7	1½ "	3½ "	¾ "	7.90	8.65	.65

Cups will be sent regular pipe thread shanks as per above list, unless otherwise specified.

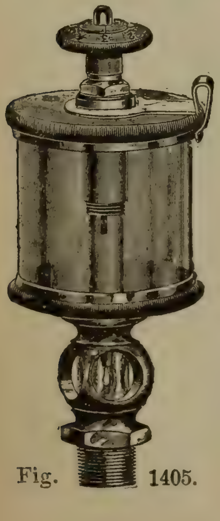


Fig. 1405.

THE MASON REDUCING VALVES.

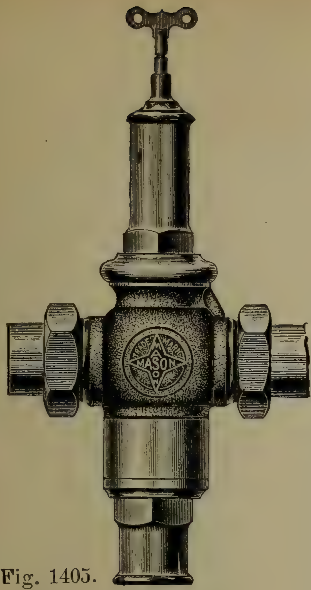


Fig. 1405.

This Valve is designed to reduce the water pressure or air pressure, regardless of the initial pressure. It will automatically reduce boiler pressure for steam-heating coils, dry-rooms, paper-making machinery, slashers, dye-kettles and all places where it is desirable to use lower pressure than that of the boiler. The dashpot, which immediately fills with condensation, prevents all chattering or pounding, and requires no attention. No extra lock up attachment is needed, as the pressure is regulated by a key, which the engineer retains. The sizes, up to and including 2 inch, are made of the best composition, and above that, of cast iron, with composition linings. In the larger sizes the composition lining is hung up in the valve, leaving a space between the iron and composition for the unequal expansion of the metals; thus there is no possibility of the piston sticking when the valve is heated.

Size.	Price.	Size.	Price.
½ inch	$18.00	3 inch	$72.00
¾ "	18 00	3½ "	85 00
1 "	22.00	4 "	100.00
1¼ "	28.00	5 "	135.00
1½ "	35.00	6 "	180.00
2 "	44.00	8 "	250.00
2½ "	57.00		

To increase pressure, turn the Key in the direction taken by the hands of a watch.

THE MASON PUMP PRESSURE REGULATOR.

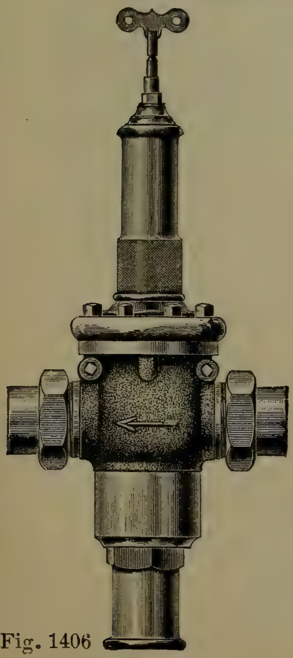


Fig. 1406

For fire, tank, elevator, air and water works pumps, or any class of pumping machinery where it is necessary to maintain a constant pressure. The regulator may be instantly adjusted to any pressure desired by simply turning the key as shown in the cut. The especial feature of this regulator is that the pressure chamber into which the water enters is entirely removed and separate from the steam and all working parts. The long cylinder at the bottom of the regulator is a dashpot, the piston of which is connected with the main valve of the regulator, thereby preventing sudden and violent "jumping" of the pump when the pressure suddenly changes. These regulators are made in all the pipe sizes; those up to and including 2 inch, of the best steam metal; the largest sizes of cast-iron lined with steam metal. The springs are made of the finest tool steel, tempered. Each size, up to and including 2 inch, is furnished with couplings.

	Price.		Price.
Size Pipe, ½ inch	$20.00	Size Pipe, 2 inch	$55.00
" ¾ "	20.00	" 2½ "	68.00
" 1 "	25.00	" 3 "	85.00
" 1¼ "	30.00	" 3½ "	100.00
" 1½ "	42.00	" 4 "	115.00

ROSS PATENT REDUCING VALVES.

For Water.

SCREW TOP, WITH COUPLINGS.

Fig. 1407.

Size of Pipe.		Price.
¾	inch	$7.00
1	“	10.00
1¼	“	14.00
1½	“	20.00

Above 2-inch Valves are made with screw sockets or flanges.

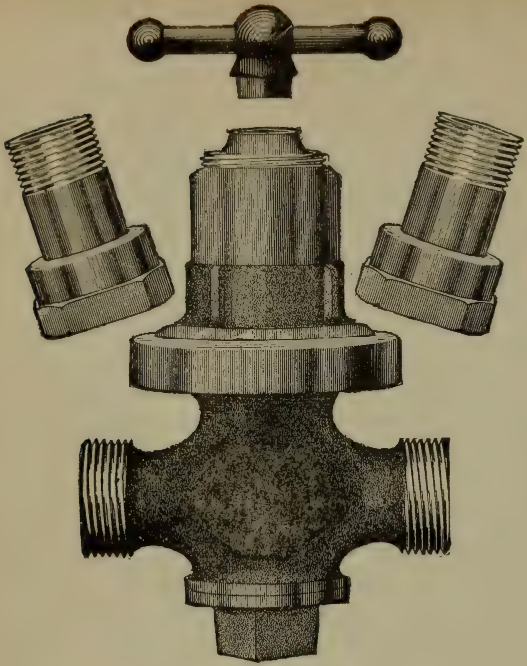


Fig. 1407.

SCREW SOCKET OR FLANGED.

For Water.

Fig. 1408.

Size of Pipe.				Price.
2	inch,	Screw Socket	or Flange	$24.00
2½	“	“	“	45.00
3	“	“	“	60.00
4	“	“	“	85.00
5	“	“	“	100.00

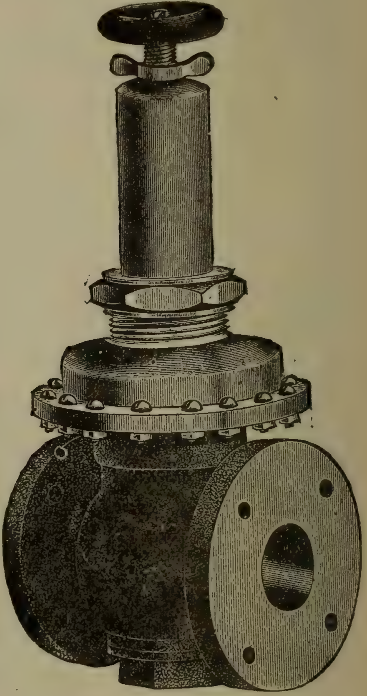


Fig. 1408.

ROSS PATENT REDUCING VALVES.

FOR STEAM.

Lever and weight for low pressure, or vacuum. With brass couplings.

Fig. 1409.

Size of Pipe.				Price.
¾ in.,	Iron body,	brass mounted,	brass couplings	$15.00
1 “	“	“	“	15.00
1¼ “	“	“	“	18.00
1½ “	“	“	“	23.00
2 “	“	“	flanged couplings	30.00
2½ “	“	“	“	45.00
3 “	“	“	“	60.00
4 “	“	“	“	85.00
5 “	“	“	“	100.00
6 “	“	“	“	150.00

For Vacuum, reverse lever and weight.

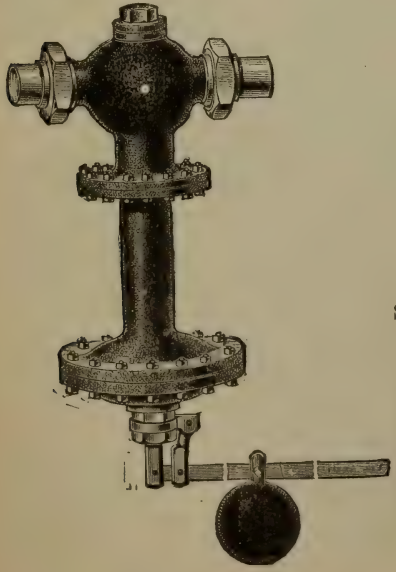


Fig. 1409.

FOSTER "CLASS Q." PRESSURE REGULATOR.

FOR LOW PRESSURES.

Not Exceeding 15 lbs. Delivery.

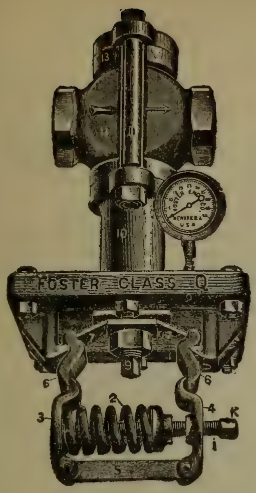


Fig. 1410.

PRICE LIST AND DIMENSIONS.

Size in Inches.	Screwed Ends.	Flanged Ends.
1	$20	. .
1¼	24	. .
1½	28	. .
2	35	$38
2½	40	43
3	48	52
3½	55	60
4	70	75
5	85	90
6	120	125
8	. .	200
10	. .	300
12	. .	350

Steam Gauge Shown in Cut, $3.00 Extra.

FOSTER PISTON ACTUATED PUMP GOVERNOR.

With Compensating Spring. Controlled Solely by the Discharge Pressure.

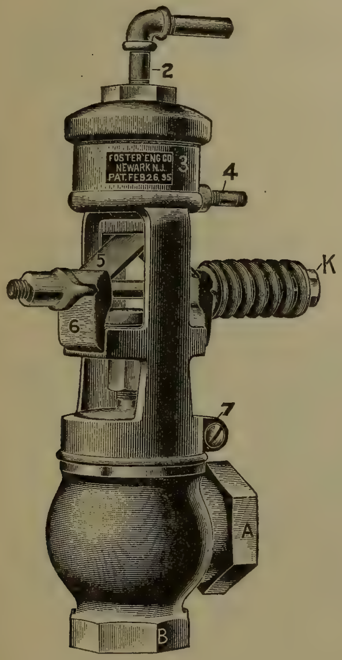


Fig. 1411.

The Valve is made throughout of the best steam-metal composition, in all sizes up to 2-inch inclusive. Larger sizes have iron bodies with brass trimmings.

Steam inlet is at A and outlet leading to the Pump at B. Connection is made at pipe 2 between the Governor and pump discharge, or pressure tank (preferably the latter), with a ¼-inch pipe, if not longer than 12 feet, or a ⅜-inch pipe for greater length.

The power of the spring is regulated by adjusting nut K—to the right to increase the discharge pressure and to the left to diminish it.

Orders should specify approximately the required pump discharge pressure.

PRICE LIST.

Size, inches .	¾	1	1¼	1½	2	2½	3	4	5
Price . .	$18.00	20.00	22.00	25.00	30.00	35.00	40.00	50.00	65.00

THE FOSTER

PRESSURE REGULATOR AND PUMP REGULATOR,

For Regulating Pressures of Steam, Water, Gas and Air.

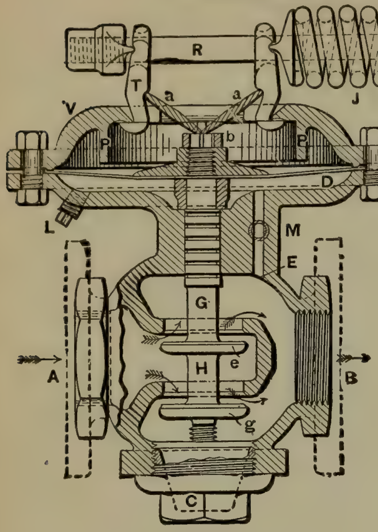


Fig. 1412.
SECTIONAL VIEW OF 1-2 TO 2 IN.

NEW CLASS "W"

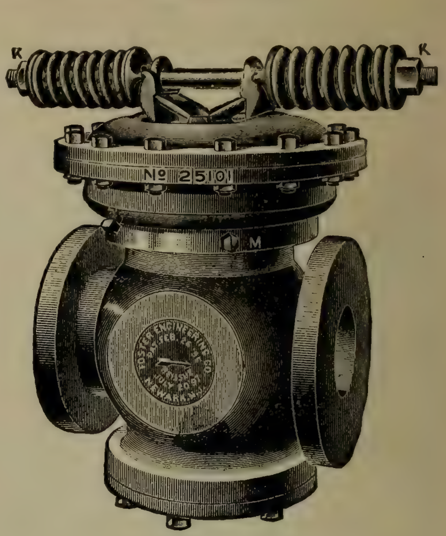


Fig. 1413.
PERSPECTIVE VIEW OF 2 1-2 IN. TO 6 IN.

PRICE LIST AND DIMENSIONS.

Size, Inches.	Screwed Ends.	Flanged Ends.	Diameter of Flanges.*	Distance Between Faces.*	Approximate Weights. Iron. Screwed.	Approximate Weights. Iron. Flanged.	Approximate Weights. Composition. Screwed.	Approximate Weights. Composition. Flanged.
¾	$20.00	$22.00	3¾ in.	4¼ in.	. .	. .	11 lbs.	13 lbs.
1	22.00	24.00	4¼ “	5¾ “	. .	. .	12 “	16 “
1¼	28.00	30.00	5 “	5½ “	19 lbs.	23 lbs.	21 “	26 “
1½	35.00	37.00	5⅜ “	6 “	22 “	28 “	26 “	32 “
2	44.00	46.00	6 “	7 “	40 “	50 “	51 “	60 “
2½	57.00	60.00	7 “	9 “	60 “	75 “	70 “	87 “
3	72.00	75.00	7½ “	10 “	73 “	80 “	84 “	95 “
3½	90.00	95.00	8½ “	11 “	84 “	100 “	94 “	112 “
4	100.00	105.00	9 “	12 “	139 “	160 “	155 “	180 “
4½	120.00	125.00	9¼ “	14 “	154 “	174 “	. .	193 “
5	135.00	140.00	10 “	15 “	180 “	191 “	. .	209 “
6	180.00	185.00	11 “	17 “	233 “	275 “	. .	324 “
7	. .	220 00	12½ “	18¼ “	. .	390 “	. .	480 “
8	. .	260.00	13½ “	20¾ “	. .	450 “	. .	. .
10	. .	350.00	16 “	23½ “	. .	575 “	. .	. .
12	. .	450.00	19 “	27¼ “	. .	1050 “	. .	. .
14	. .	575.00	21 “	31 “	. .	1375 “	. .	. .
16	. .	700.00	23½ “	34 “	. .	1600 “	. .	. .
18	. .	875.00	25 “	37½ “	. .	1900 “	. .	. .

*These are standard dimensions. Flanges with different dimensions, or distances between faces, are made only to order, for which an additional price is charged. Drilling flanges extra. Companion flanges, bolted to Regulators furnished at reasonable prices.

Special Valves, made throughout of Government Composition—such as we furnish for the United States Navy—are only made to special order, and at an extra net price of 35 cts. per lb. gross weight of Regulator. This extra charge is to cover the extra cost of the metal and the additional expense incident to making one or a few valves at a time, and affords no additional profit to the manufacturer.

Note.—Unless otherwise specified, all Regulators will be provided with a spring capable of delivering any pressure between 10 and 60 lbs. If required for a higher or for lower pressures than this, the order should so state.

WATSON'S NEW DIAPHRAGM REDUCING VALVE.

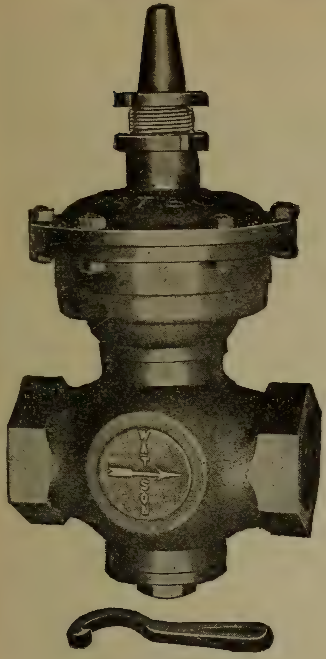
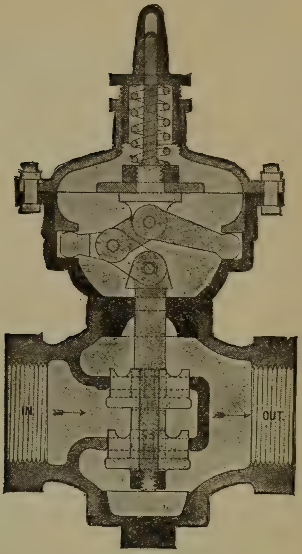


Fig. 1414.



INSIDE VIEW.
Fig. 1415.

State in ordering for what purpose it is wanted, also about what the pressure on high side is, and about what is wanted on the reduced side.

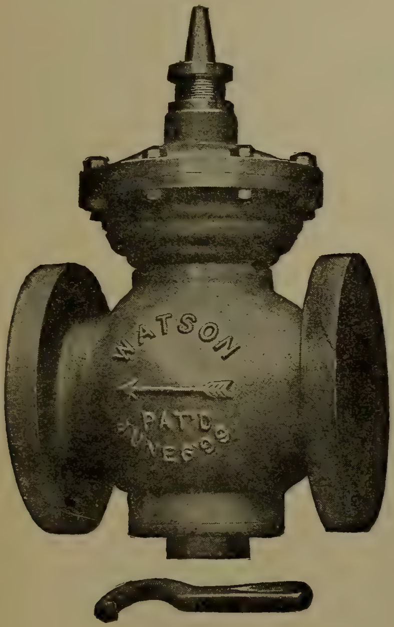


Fig. 1416.

SIZES AND PRICES.

ALL BRASS-MADE SCREWED ENDS ONLY.

Size		Price
Size,	$\frac{3}{4}$ inch	Price, $17.00
"	1 "	" 20.00
"	$1\frac{1}{4}$ "	" 25.00
"	$1\frac{1}{2}$ "	" 30.00

IRON BODIES, FLANGED ENDS.

Size		Price
Size,	2 inch	Price, $38.00
"	$2\frac{1}{2}$ "	" 55.00
"	3 "	" 70.00
"	4 "	" 90.00
"	5 "	" 110.00
"	6 "	" 150.00

DIRECTIONS FOR OPERATING.

1. Screw the regulating screw all the way up.
2. Have lock nut all the way up.
3. Apply the wrench on regulating screw to screw down, until your gauge shows the reduced pressure required.
4. Then screw the lock nut down to hold the set and prevent tampering.

If for use on Water, Air, Gas or Vacuum Heating System give notice in order, as the Valves will be made for the purpose.

WATSON'S SPRING PRESSURE REGULATOR.

FOR STEAM PUMPS, ENGINES, STEAM VESSELS AND WATER, GAS AND AIR.

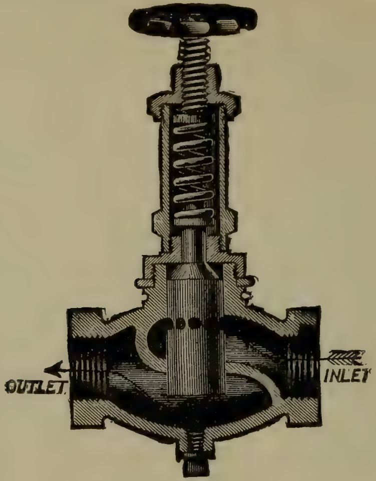


Fig. 1417.

ALL BRASS, SCREWED ENDS ONLY.

Size, inches .	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	4
Price, each .	$14.00	17.00	22.00	28.00	38.00	55.00	70.00	90.00

IRON BODY AND BRASS LINED, FLANGED.

These are also tapped for screwing and can be used either flanged or screwed.

Size, inches	2	$2\frac{1}{2}$	3	4	5	6
Price, each	$38.00	55.00	70.00	90.00	110.00	150.00

WATSON'S PRESSURE REGULATOR.

WITH LEVER AND WEIGHT.

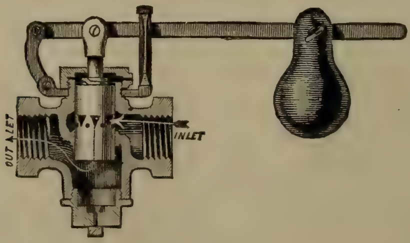


Fig. 1418.

SIZES AND PRICES SAME AS ABOVE.

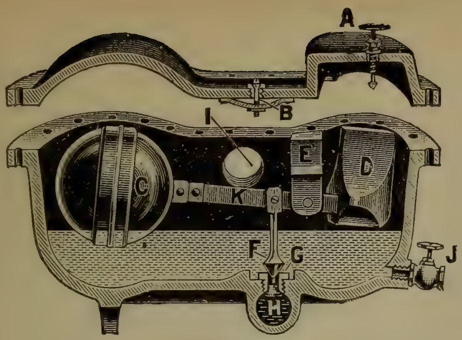


Fig. 1420.

"McDANIEL" STEAM TRAP.

A good continuous drainer, and does not discharge at intervals or throw out any steam with the condensation. Low Pressure Traps, all sizes, made to work from 1 lb. to 20 lbs. steam pressure. Regular Pressure Traps, all sizes, made to work from 1 lb. to 100 lbs. steam pressure.

When not otherwise ordered, Regular Pressure Traps will be sent.

Size No. of Trap	1	2	3	4	5
Pipe, size inlet and outlet	1	1¼	1½	2	2½
Number of feet, 1 inch pipe, it will drain	3500	7000	14000	20000	25000
Price	$30.00	40.00	65.00	75.00	100.00

McDANIEL'S EXTRA HEAVY STEAM TRAPS.

For working Steam Pressure above 100 lbs. to 150 lbs. per square inch. They are made from Special Patterns and tested to a pressure of 250 lbs.

Size No. of Trap	0	1	2	3	4	5
Size of inlet and outlet	¾	1	1¼	1½	2	2½
Drains No. of feet 1 inch pipe	1000	3500	7000	14000	20000	25000
" " sq. ft. heating surface	333	1166	2333	4666	6666	8333
Price	$24.00	40.00	55.00	80.00	90.00	100.00

In ordering Extra Heavy Steam Traps, we should know the Highest Boiler Pressure at which the Trap will be used, as that determines the Size of Valve Outlet; otherwise we will send it made to work from 1 lb. up to 150 lbs. working pressure.

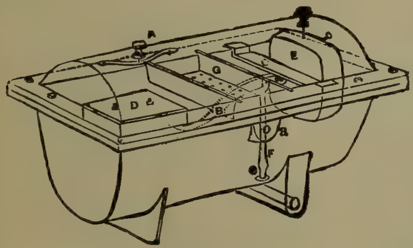


Fig. 1421.

CHAPMAN'S SELF-REGULATING STEAM TRAP.

Regular Pressure are made to work from 1 lb. up to 75 lbs. Steam Pressure. No. 1 size can only be made to work up to 75 lbs. and no higher. Nos. 2, 3 and 4, regular sizes, can be made to work up to 100 lbs., but must be specially ordered, stating pressure wanted. Low Pressure are made to work from 1 lb. up to 20 lbs. only.

Size No. of Trap	1	2	3	4
Pipe size of inlet and outlet	1	1¼	1½	2
No. of feet of 1 inch pipe it will drain	1500	3000	7000	10000
Price	$25.00	35.00	60.00	70.00

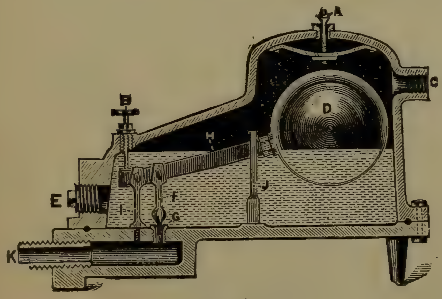


Fig. 1422.

"RELIABLE" STEAM TRAP.

For small drainage, that can be sold at a low price. No. 0 weighs 35 lbs.; No. 00 weighs 30 lbs. Both sizes work at from 1 lb. to 100 lbs., steam pressure only, and no higher.

No. of Trap.	Size of Inlet and Outlet.	Drains No. of Feet of 1 in. Pipe.	Price.
0.	¾ inch.	1000	$12.00
00.	½ "	450	8.00

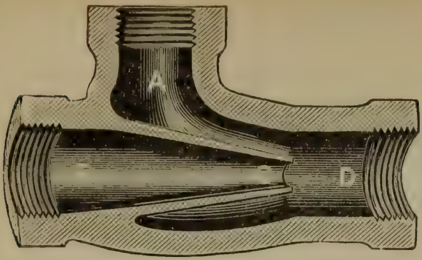


Fig. 1423.

McDANIEL'S SUCTION TEE.

REGULAR TEES, 100 LBS.

Size,	¾ in.	1 in.	1¼ in.	1½ in.	2 in.	2½ in.	3 in.
Price,	$0.80	1.00	1.25	1.50	2.00	2.50	3.00

EXTRA HEAVY TEES, 250 LBS.

Size,	1 in.	1¼ in.	1½ in.	2 in.	2½ in.
Price,	$2.00	2.50	3.00	4.00	6.00
Size,	3 in.	3½ in.	4 in.	5 in.	6 in.
Price,	$9.00	12.00	15.00	24.00	34.00

This is a Fitting that will make all bad jobs of Steam Heating work well, and stop the snapping and backing up of one return on another.

Wherever two returns back up on another, it will stop the same—by using the shortest one, getting its steam first at B, and the other and weaker one at A, as by this means the stronger one will act as an ejector, and cause the weaker one to circulate freely. All can then be connected at D, and carried on to the main waste or return. The Suction Tee can be used to advantage in making all connections on heating jobs. Where condensation returns to the boilers, put it on wherever two returns come together.

SEAMLESS COPPER BALL FLOATS.

Size, inch, .	4	4½	5	5¼	6	7	8	9	10	11
Weight, each,	12 oz.	13 oz.	1¼ lb.	1½ lb.	2¼ lb.	3½ lb.	4½ lb.	5½ lb.	9½ lb.	12½ lb.
Price, per doz.,	$23.00	23.00	27.00	27.00	34.00	49.00	64.00	79.00	105.00	128.00

12½ in., 18½ lb., $14.50   15 in., 33 lbs., $28.50   16 in., 39 lbs., $31.25 each.

We guarantee all our floats not to fill or collapse under a pressure of 300 lbs. per square inch, unless otherwise specified, for a period of one year from date of shipment.

In ordering, be sure to specify the dimensions of nipple, and whether male or female.

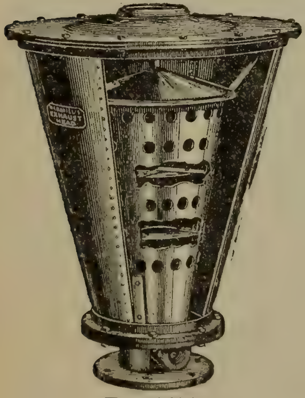


Fig. 1424.
McDaniel.

KEYSTONE EXHAUST PIPE HEAD.

Made without the Cast-iron Top.

For	2	inch	Iron	Pipe,	Screwed,	$14.00
“	2½	“	“	“	“	16.00
“	3	“	“	“	“	18.00
“	3½	“	“	“	“	21.00
“	4	“	“	“	“	24.00
“	5	“	“	“	“	30.00
“	6	“	“	“	Flanged,	36.00
“	7	“	“	“	“	43.00
“	8	“	“	“	“	50.00
“	10	“	“	“	“	85.00
“	12	“	“	“	“	100.00

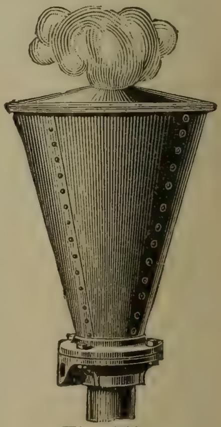


Fig. 1425.
Keystone.

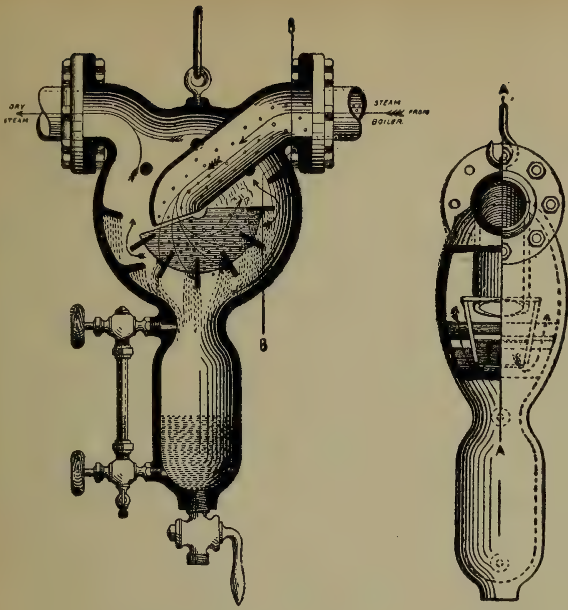
McDANIEL'S EXHAUST PIPE HEADS.

CAST IRON TOP.

Diameter of Exhaust Pipe,	2	2½	3	3½	4	5	6	7	8	9	10	12
Dia. Flanges on Exhaust Heads	Sc'd	Sc'd	Sc'd	Sc'd	Sc'd	12	12	13	14	14	16	18
Number of Drips,	1	1	1	1	1	1	1	1	1	1	2	2
Size of Drip Pipes,	1	1	1	1¼	1¼	1½	1½	1½	2	2	2	2½
Price, each, .	$25.00	27.50	30.00	35.00	40.00	50.00	60.00	70.00	85.00	105.00	120.00	150.00

14, 15, 16, 18, 20 and 24 inch quoted on application.

Can ship any size of Exhaust Heads up to and including 8-inch out of stock; other sizes made to order on short notice.



Sectional View. Patented.

Fig. 1426.

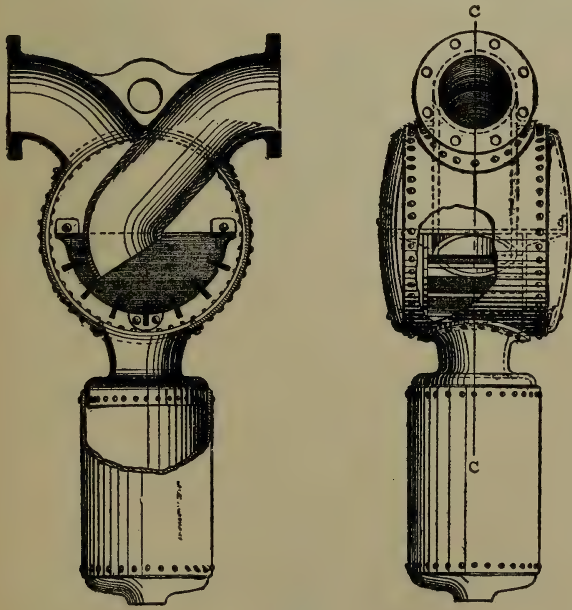
JENNINGS' COMBINE SEPARATOR.

FOR EXHAUST OR LIVE STEAM. HORIZONTAL FORM.

Diameter of Steam Pipe.	Diameter of Flanges.	Face to Face of Flanges.	Size of Drain Pipe.	Width of Chamber.	Total Height over all.	Price.
2 screw.		11	¾	4⅜	19	$40.00
2½	8½	15	1	7¾	28¼	50.00
3	8½	15	1	7¾	28½	60.00
3½	10	19	1¼	11¼	37	70.00
4	10	19	1¼	11¼	37	80.00
4½	11	23	1½	14⅞	44	95.00
5	11	23	1½	14⅞	44	110.00
6	14	27	2	18⅝	60½	140.00
7	14	27	2	18⅝	60½	160.00
8	16	32	2½	21⅞	72	200.00
9	16	32	2½	21⅞	72	240.00

Separators from 2 inch to 9 inch inclusive are made of cast-iron.

Above prices are for either horizontal or vertical type.



Patented.

Fig. 1427.

JENNINGS' COMBINE SEPARATOR.

BUILT ENTIRELY OF STEEL.

Diameter of Steam Pipe.	Diameter of Flanges.	Face to Face of Flanges.	Size of Drain Pipe.	Width of Chamber.	Total Height over all.	Price.
10	17½	42	2½	31¼	78¾	$330.00
12	20	44½	2½	33⅞	86¼	450.00
14	23	47½	3	36⅜	94½	600.00
16	25	51	3	39⅜	102½	800.00
18	27½	55	3½	42¾	110¾	1000.00
20	29	59½	3½	46	118½	1200.00

For excessively high pressures, producing quadruple effect.

THESE PRICES ARE FOR SEPARATORS WORKING UP 125 LBS. PRESSURE.

An additional charge of 10 per cent. of list price for pressures above 125 lbs. We are prepared to build Separators of special design to meet peculiar requirements.

THE ASHTON LOCK-UP POP SAFETY VALVE.

NO. 3 STYLE.

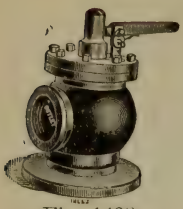


Fig. 1428.

Specially Adapted for Boilers in Mills, Factories, Electric Light and Power Stations.

Size Valve, inches	2	2½	3	3½	4	4½	5	5½	6
Price . . .	$30.00	40.00	55.00	64.00	70.00	80.00	85.00	105.00	125.00
Diameter of Inlet Flange, inches,	7	8	9	10	10	12	12	14	14

Always state in ordering whether flanged or screw end valve is desired. Always mention on order the highest working pressure carried.

THE ASHTON POP SAFETY VALVE.

FOR SMALL STATIONARY AND PORTABLE BOILERS.

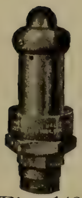


Fig. 1429.

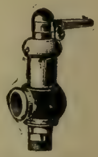


Fig. 1430.

These Valves, made entirely of high grade composition metal, finely finished, the springs of Jessop's Steel. They have beveled seats, encased spring chamber, pivoted spring discs, and give great efficiency and durability.

PRICE LIST.

Size inches	¾	1	1¼	1½	2
Fig. 1432, Valve, without Cap . .	$4.50	6.50	8.50	10.00	20.00
" 1429, " Cap only . . .	5.00	7.00	9.00	10.50	20.50
" 1431, " lock-up Cap and Lever	6.00	8.00	10.00	12.00	22.00
" 1430, " " and pipe outlet	7.00	9.00	11.00	14.00	25.00

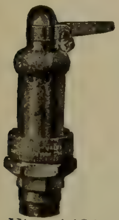


Fig. 1431.

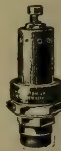


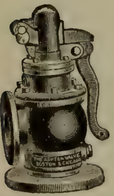
Fig. 1432.

In ordering always mention Fig. No. of style wanted, and give highest working pressure carried.

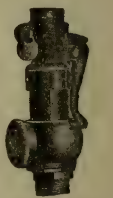
Every valve is tested at factory before shipment.

CAM LEVER MARINE POP SAFETY VALVES.

WITH LOCK-UP ATTACHMENT.



IRON MARINE VALAE.
Fig. 1433.



COMP. YACHT VALVE.
Fig. 1434.

These valves have beveled seats at an angle of 45° and with the powerful cam lever is arranged to lift the valve off its seat one-eighth the diameter of the valve opening, thus fully complying with the rules and regulations of the U. S. Board of Supervising Inspectors of Steam Vessels.

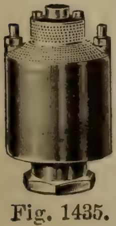
These marine valves have been accepted by the Chief Engineer of the U. S. Navy Department and are in use on many of the latest Cruisers and Battleships.

The working parts are made of high-grade composition metal; the springs of Jessop's Steel.

Size inches . . .	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	5½	6
Fig. 1434, Valve, each	$7.20	9.60	12.00	14.40	25.00	40.00	. .	. .	. .	. .	. .	. .	. .
" 1433, " "	. . .	. .	. .	. .	. .	$48.00	66.	75.	84.	95.	102.	125.	150.
Inlet Flange diam. inches	. .	. .	. .	. .	. .	8	9	10	10	12	12	14	14
Outlet Flange " "	. . .	. .	. .	. .	. .	7	7½	8	8½	9	9½	10	10½

Testing clamps furnished by us at no extra expense. Unless otherwise stated, all marine valves above 2 inch size are made with flanged inlet and outlet.

THE ASHTON IMPROVED LOCOMOTIVE MUFFLER POP SAFETY VALVE.



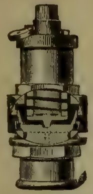
Size, ... Inches,	2½	2¾	3
Price	$85.00	90.00	95.00

SPECIAL NOTICE.

These Locomotive Pop Safety Valves are not made in sizes larger than three inches, as we guarantee our 3-inch muffler or 3-inch open pop to give perfect relief to any locomotive boiler in the world.

Fig. 1435.

THE ASHTON LOCOMOTIVE OPEN POP SAFETY VALVE.



Size	2½ inch	3 inch
Price	$40.00	$48.00

Fig. 1436.

THE ASHTON CAM LEVER LOCOMOTIVE OPEN POP SAFETY VALVE.

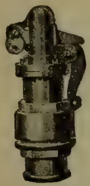


Fig. 1437.

This Cam Lever Open Pop Valve, as shown, is virtually the Fig. 1436 Valve, shown at top of this page, with the addition of the Cam Lever attachment on top. This valve is oftentimes used on locomotives as an auxiliary to Fig. 1436 Open Pop or Fig. 1435 Muffler Valve. In such cases this Cam Lever Valve is usually set to work at a few pounds higher pressure. The Cam Lever makes it possible to trip the valve easily by hand, or by means of a rod attached to the lever it is possible to trip the valve from the cab. Price, 2½ inch, $45.00; 3 inch, $55 00.

THE ASHTON WATER RELIEF VALVE.

For Fire Pumps, Hydraulic Elevators, Water Works, Pumping Stations and Stand Pipes.

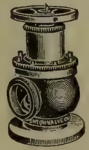


Fig. 1438.
IRON WATER RELIEF VALVE.

State style wanted and whether screwed or flanged valve is desired.

Fig. 1439 style is termed the Underwriters' Pattern, having been competitively tested and accepted by the Associated Factory Insurance Companies. This valve is made with extra long spring, giving large relief. It is furnished with large wheel-top for easy adjustment. The working parts are of high grade composition metal. The springs of Jessop's steel.

Fig. 1438 valve is made in sizes from ¾ to 2½ in. inclusive and is entirely of composition metal, finely finished, the spring of Jessop's steel.

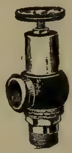


Fig. 1439.
COMP. WATER VALVE.

Give pressure at which valve is to work

PRICE LIST.

Size . .	¾	1	1¼	1½	2	2½	3	3½	4	4½	5	6
Fig. 1438, price	$7.00	9.00	12.50	16.50	23.00	40.00	. .	. .	. .	. .	. .	. .
Fig. 1439, "	. .	. .	. .	30.00	40.00	60.00	75.00	80.00	85.00	105.00	125.00	150.00
Inlet Flange	. .	. .	. .	. .	. .	8	9	10	10	12	12	14

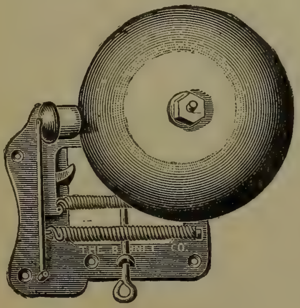


Fig. 1440.

LOCOMOTIVE GONGS. FIG. 1440.

Size, inches .	6	7	8	9	10
Each . .	$2.50	3 50	4.50	5.50	6.50

GONG BELLS.

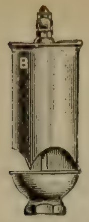
Size, in.,	3	4	5	6	8	10	12	14	16
Each	$2.00	2.45	2.95	3.70	5.60	7.90	13.50	22 00	28 80

TRIP GONGS.

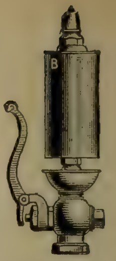
Size, inches . .	13	15	18	25
Each . . .	$16.00	22.00	27.00	to order

Large Pulls	Each	$1.75
Extra Large Pulls	"	2.25

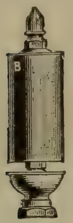
STEAM CHIME WHISTLES.


WITHOUT VALVE.
Fig. 1441.

Diam. of Bell, Inches	2	3	4	5	6	8	10	12
Pipe size, "	½	¾	1	1¼	1½	2	2½	3
Fig. 1441, Each	$5.00	8.00	14.00	22.00	38.00	85.00	150.00	260.00
Fig. 1442, Each	7.00	11.00	18.00	28.00	42.00	100.00	180.00	300.00

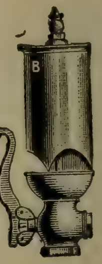

WITH VALVE.
Fig. 1442.

PLAIN WHISTLES.


WITHOUT VALVE.
Fig. 1443.

Diam. of Bell, inches,		1	1¼	1½	2	2½	3
Pipe Size,	"	¼	½	⅜	½	¾	1
Fig. 1443,	Each,	$2.20	2.75	3.00	4.35	5.25	7.25
Fig. 1444,	Each,	3.10	3.75	4.00	5.50	6.50	8.50

Diam. of Bell,	Inches,	3½	4	5	6	8
Pipe Size,	"	1	1¼	1½	2	2½
Fig. 1443,	Each,	$9.50	12.00	19.00	24.00	70.00
Fig. 1444,	"	11.50	15.00	22.50	33.00	95.00


WITH VALVE
Fig. 1444.

WHISTLE VALVES.

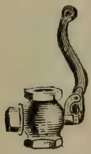


Fig. 1445.

Size, Inches,	½	¾	1	1¼	1½	2	2½	3
Price, Each,	$2.50	3.00	3.50	5.00	6.00	9.00	18.00	27.00

RELIANCE SAFETY WATER COLUMNS.

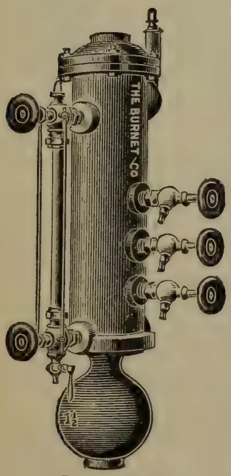


Fig. 1446.

Number	1	1½	2	5	6	7	9	11	13	15
Style	H.&L.	H.&L.	Low.	H &L.	Low.	H.&L.	H.&L.	H.&L.	H.&L.	H.&L.
Japanned, without Gauge Cocks or Water Gauge, Each,	$28.00	28.00	25.00	30.00	28.00	35.00	40.00	42.50	45.00	50.00
Japanned, with Gauge Cocks and Water Gauge, Each,	35.00	35.00	32.00	40.00	38.00	45.00	50.00	55.00	65.00	70.00
Finished Brass, without Gauge Cocks or Water Gauge, Each,	70.00	..	65.00	80.00	75.00	..	..	..	..	..
Finished Brass, with Gauge Cocks and Water Gauge, Each,	85.00	..	80.00	100.00	95.00	..	..	..	..	..

DESCRIPTION.

Number	1	1½	2	5	6	7	9	11	13	15
Dimensions Over All	3¾x23¼	5x28¼	3¾x23¼	4¼x29½	4¼x27¼	5¼x36	5¼x44	5x58	5x64	5x70
Diameter Boiler (Maximum)	54	54	60	Any Diam.	Any Diam.	..	..	..	..	..
Steam Pressure, Lbs., (Maximum)	150	200	150	Any Pres.	Any Pres.	..	..	..	..	..
Size Boiler Connections	1	1¼	1	1¼	1¼	1½	1½	1½	1½	1½
Variations Between Alarms, inches,	6	6	..	8	..	12	18	24	30	36
Length of Glass	12	12	12	16	16	19	24	30	36	42
Distance between Gauge Cocks	3	3	3	4	4	6	9	12	15	18
Size Trimmings	½	½	½	¾	¾	¾	¾	¾	¾	¾

Number 9, 11, 13 and 15 are for use on vertical boilers; all other sizes for horizontal boilers.

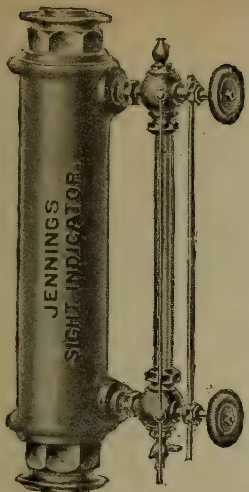


Fig. 1447.

JENNINGS' SIGHT INDICATOR.

A tell-tale on Separator and Trap with Automatic Stop Water Gauge. Neat and attractive. A preventive of disastrous results.

Pipe Size, inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$
Distance from centre to centre of Water Gauge, inches	10	$11\frac{5}{8}$	$13\frac{1}{4}$	$14\frac{3}{4}$	$16\frac{3}{8}$	18
Length from end to end. inches	$14\frac{3}{4}$	$17\frac{1}{8}$	$19\frac{1}{2}$	$21\frac{7}{8}$	$24\frac{1}{4}$	$26\frac{5}{8}$
Price	$14.	16.	20.	20.	22.	24.

In case a glass breaks, the steam is shut off by the automatic water gauges, and no danger of scalding the attendant. This device places the Separator under the control of the attendant, and gives ample time to open the by-pass in case the trap fails to work, or is not equal to the flood of separated water when priming, or from other causes of excess water which will show in the water glass.

RUBBER VALVES.

As many buyers experience a difficulty in ordering valves and Pure Gum to suit their requirements, we give here a number of grades with a brief description of each, which may be of service in making selections. We have small samples of each grade, numbered to correspond with this list, which we will gladly forward to any one requiring them.

No. 1. An absolutely pure valve made entirely from Fine Para Rubber.

No. 2. A very fine High Grade Valve, very soft and light.

No. 3. A High Grade Valve made from prime stock, and is soft and pliable.

No. 4. A High Grade Valve made from prime stock, but more solid and firm than No. 3. Makes an excellent pump valve.

No. 5. Very similar to No. 4, but not of so high a grade.

No. 6. A semi-hard Hot Water and Oil Valve, made in three degrees of hardness, as follows: No. 6A, a stiff valve which can be slightly depressed with the finger nail. No. 6B, the same stock, vulcanized at higher heat, and is slightly flexible. No. 6C, same stock, vulcanized at still higher heat, and not flexible.

No. 7. A soft medium priced stock.

No. 8. A medium priced valve, somewhat harder than No. 7.

No. 9. A very soft medium priced stock.

No. 10. A medium soft low priced stock.

No. 11. A medium soft lower priced stock.

No. 12. A low priced Hot Water and Oil Valve.

No. 13. A very low priced stock.

No. 14. A still lower priced stock.

No. 15. A very high grade red valve.

No. 16. A good grade red valve.

No. 17. A *very* hard Hot Water and Oil Valve; would break before it would bend.

No. 18. A double faced Pump Valve, very hard on one side and soft on the other.

Fig. 1448.

Fig. 1449.

JENKINS BROS. PUMP VALVES.

These valves are especially adapted for pumping hot water, syrups, beer and other destructive fluids, also muddy and gritty water. When rubber valves have been found useless, these valves have given entire satisfaction.

For mining and high pressure service Jenkins Bros. No. 88 Pump Valves are in use on 450 pounds pressure, and are giving entire satisfaction.

They also manufacture a fine grade of Rubber Valves for cold water and air service. When ordering valves, please state *for what purpose* you desire to use them. Price, $1.00 per pound.

In ordering Pump Valves, give Diameter, Thickness and Size of Hole.

SIPHONS AND COCKS.

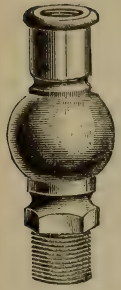


Fig. 1450.

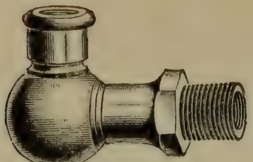


Fig. 1451.

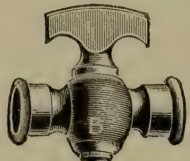


Fig. 1452.

T HANDLE STEAM
GAUGE COCK.

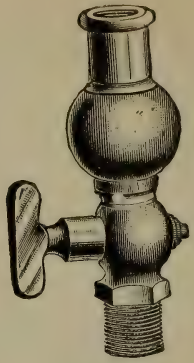


Fig. 1453.

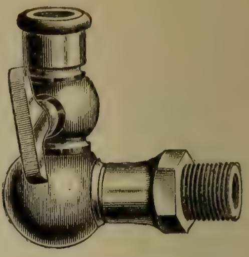


Fig. 1454.

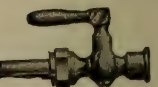


Fig. 1455.

LEVER HANDLE UNION
STEAM GAUGE COCK.

PRICE LIST.

Siphons and Cocks.		Brass.	N. P.
Common Iron Pipe Siphon, each	Fig. 1456	$0.25	. .
" Brass " "	Fig. 1456	1.00	$1.50
" T Handle, Brass Cock	Fig. 1452	.50	.75
Heavy " "	Fig. 1452	1.00	1.50
Small Union, Brass Cock . .	Fig. 1455	1.50	2.00
Large " " . .	Fig. 1455	2.00	2.50
Straight Siphon, without Cock,	Fig. 1450	1.00	1.50
Elbow " "	Fig. 1451	1.25	1.75
Straight " with Cock,	Fig. 1453	1.50	2.00
Elbow " "	Fig. 1454	1.50	2.00

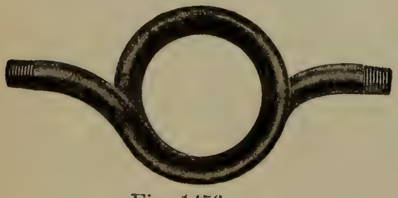


Fig. 1456.

SIPHON.

A Siphon should be used in connecting steam gauge. Before connecting gauge, first fill siphon with water, thus preventing the steam from coming in contact with spring of gauge. No steam gauge is warranted unless connected with Siphon.

LEVER PUMP AND TEST GAUGE.

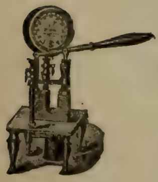


Fig. 1457.

This Pump is compact, net and durable. It occupies only a space of nine inches square.

PRICES.

Fig. 1457, Pump and Gauge complete, nickel-plated, in velvet lined black walnut box, with lock, key and handles, nickel-plated trimmings, and small tools	$75.00
Fig. 1458, Pump only, nickel-plated	50.00
Fig. 1459, " plain brass	40.00

WATER GAUGES.

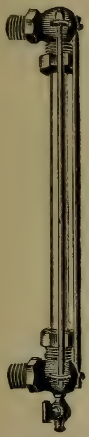


Fig. 1458
FOR EXPANSION TANK.

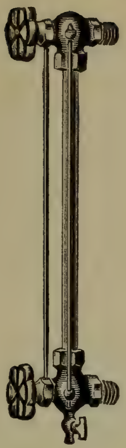


Fig. 1459.
ROUGH BODY, IRON WHEEL.

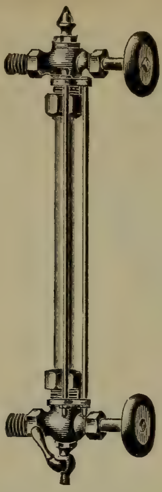


Fig. 1460.
FINISHED ROUND BODY, WOOD WHEEL.

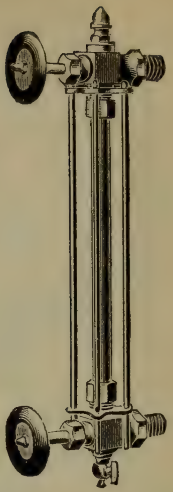


Fig. 1461.
FINISHED SQUARE BODY, WOOD WHEEL.

	Size of Pipe. Inches.	Size of Glass. Inches.	Number of Guards.	Price Each.
Fig. 1458	½	⅝ x 12	2	$2.60
Fig. 1459	½	⅝ x 12	2	3.25
Fig. 1460	½	⅝ x 12	2	5.75
Fig. 1461	½	⅝ x 12	4	7.50
Fig. 1461	¾	¾ x 16	4	10.00
Fig. 1461	¾	¾ x 16	2	8.00

MONCRIEFF'S GENUINE SCOTCH GLASS TUBES.

		External Diameter.			
Length,	Inches,	½ and ⅝	¾	⅞	1
10	Per doz.	$3.00	$3.60	$5.04	$6.12
11	" "	3.24	3.96	5.64	6.72
12	" "	3.60	4.32	6.12	7.32
13	" "	3.84	4.80	6.60	7.92
14	" "	4.20	5.16	7.08	8.52
15	" "	4.44	5.52	7.56	9.12
16	" "	4.80	5.88	8 16	9.72
17	" "	5.04	6.24	8.64	10.32
18	" "	5.40	6.60	9.12	10.92
19	" "	5.64	7.08	9.60	11.52
20	" "	6.00	7.44	10.20	12.12
22	" "	6.60	8.16	11.16	13.44
24	" "	7 20	8.88	12.12	14.64
30	" "	9.00	11.16	15.24	18.24
36	" "	10.80	13.44	18.24	21.96
48	" "	14.52	18.00	24.36	29.16
60	" "	18.12	22.56	30.48	36 48
72	" "	21.84	27.12	36.48	43.80

60 x 1¼ inches, $60.00 per dozen.

SIGHT FEED LUBRICATOR GLASSES.

External diameter, Inches.	½	⅝	¾
Per dozen	$1.00	1.00	1.00

2½ to 3½ inches long.

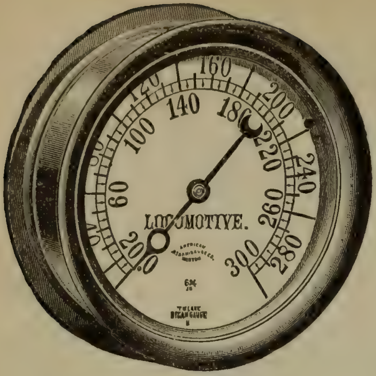


Fig. 1462.

LOCOMOTIVE STEAM GAUGES.

Springs of Solid Drawn or Brazed Tube.

PRICES, INCLUDING COCK.

Size.	Iron Case, Japanned.	Iron Case, N.P.Ring.	Brass Case.	N. P. Case.
6¾ inch Dial,	$18.00	$18.60	$22.00	$24.00
6 "	15.00	15.50	18.00	19.50
5 "	11.00	11.20	13.00	14.00

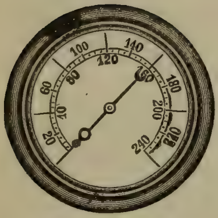


Fig. 1463.

IMPROVED SINGLE SPRING BOURDON PRESSURE OR VACUUM GAUGE.

Springs of Solid Drawn or Brazed Tube.

These gauges are graduated to any desired pressure not exceeding 500 pounds.

All gauges are graduated from an open column of mercury, and are warranted correct.

NAME ON DIAL OF GAUGES FREE OF CHARGE.

PRICES, INCLUDING COCK.

Size.	Iron Case, Brass Ring.	Iron Case, N. P. Ring.	Brass Case.	N.P.Case.	Brass Deep Case, O.G. or Oct. Ring.	N.P.Deep Case, O.G. or Oct. Ring.
12 in. Dial,	$50.00	$51.50	$75.00	$79.00	$80.00	$84.00
10 "	32.00	33.00	40.00	43.00	44.00	47.00
8½ "	22.00	22.75	30.00	32 50	33.50	36.00
6¾ "	16.00	16.60	20.00	22.00	23.00	25.00
6 "	13.00	13.50	16.00	17.50	18.50	20.00
5½ "	10.00	10.25	12.00	13.25	13.75	15.00
5 "	8.00	8.20	11.00	12.00	12.50	13 50
4½ "	8.00	8.20	10.00	11.00	11.50	12.50
3½ "	7.00	7.18	9.00	9.75	10.25	11.00
3 "	6.00	6.15	8.00	8.60	9.25	9.75
2½ "	6.00	6.15	8.00	8.60	. .	. .
2 "	6.00	6.15	8.00	8.60	. .	. .

DOUBLE SPRING BOURDON PRESSURE GAUGE.

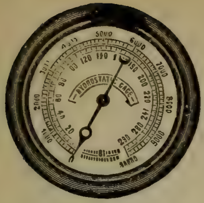
Springs of Solid Drawn or Brazed Tube.

Gauges graduated for steam or water pressure, as desired.

PRICES, INCLUDING COCK.

Size.	Iron Case, Japanned.	Iron Case, N. P. Ring.	Brass Case.	N. P. Case.	Brass Deep Case, O.G. or Oct. Ring.	N.P.Deep Case, O.G. or Oct. Ring.
12 in. Dial,	$55.00	$56.50	$80.00	$84.00	$85.00	$89.00
10 "	37.00	38.00	45.00	48.00	49.00	52.00
8½ "	25.00	25.75	34.00	36.50	37.50	40.00
6¾ "	18.00	18.60	22.00	24.00	25.00	27.00
6 "	15.00	15.50	18.00	19.50	20.75	22.25
5½ "	12.00	12.25	14.00	15.25	16.25	17.50
5 "	11.00	11.20	13.00	14.00	15.00	16.00
4½ "	10.00	10.20	12.00	13.00	13.75	14.75

THE HYDRAULIC GAUGE.



These Hydraulic Gauges are made with special steel tube for high pressures, and are accurately and carefully tested.

When ordering, state maximum pressure required, and if dial is to show pressure in tons on ram, give exact diameter of ram. No extra charge for marking tons on ram on dials.

Fig. 1464.

Size.	Iron Case, Brass Ring.	Iron Case, N. P. Ring.	Brass Case.	N. P. Case.
12 inch Dial,	$110.00	$111.50	$125.00	$129.00
10 " "	90.00	91.00	100.00	103.00
8½ " "	70.00	70.75	80.00	82.50
6¾ " "	50.00	50.60	60.00	62.00
6 " "	35.00	35.50	40.00	41.50
5 " "	30.00	30.50	35.00	36.00
4½ " "	25.00	25.50	30.00	31.00
3½ " "	22.00	22.50	26.00	26.75

Hydraulic check valves and cocks extra. No extra charge for marking tons on ram on dials. For maximum hands add $5.00 to list price. Special prices on Bourdon brass tube hydraulic gauges for pressure not over 1000 pounds.

COMBINATION WATER PRESSURE GAUGES.

For Indicating Pressure of Water in pounds per Square Inch and Corresponding Height of Water Column. Springs of Solid Drawn Tube.

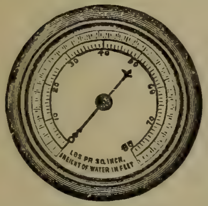


Fig. 1465.

PRICES, INCLUDING COCK.

Size.	Iron Case, Japanned.	Iron Case, N. P. Ring.	Brass Case.	N. P. Case.
12 inch Dial,	$60.00	$61.50	$80.00	$84.00
10 " "	40.00	41.00	50.00	53.00
8½ " "	30.00	30.75	40.00	42.50
6¾ " "	20.00	20.60	25.00	27.00
6 " "	16.00	16.50	20 00	21.50
5½ " "	14.00	14.25	16.00	17.25

In ordering, state maximum height of water pressure ever attained where it is applied.

IMPROVED COMPOUND PRESSURE AND VACUUM GAUGE.

This Gauge is for indicating both pressure and vacuum; pressure being marked in pounds per square inch, and vacuum in inches of mercury column.

If a pressure exceeding fifteen pounds is required, it should be stated in ordering.

Springs of Solid Drawn Tube.

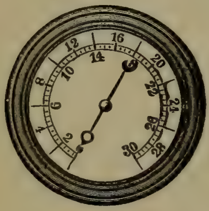


Fig. 1466.

PRICES, INCLUDING COCK.

Size.	Iron Case, Japanned.	Iron Case, N. P. Ring.	Brass Case.	N. P. Case.
12 Inch Dial,	$60.00	$61.50	$80.00	$84.00
10 " "	40.00	41.00	50.00	53.00
8½ " "	30.00	30.75	40.00	42.50
6¾ " "	20.00	20.60	25.00	27.00
6 " "	16.00	16.50	20.00	21 50
5½ " "	14.00	14.25	16.00	17.25
4½ " "	12.00	12.20	14.00	15.00
3½ " "	10.00	10.18	12.00	12.75

DUPLEX AIR BRAKE GAUGES.

The two hands are of different colors, the one in red indicating Reservoir pressure, and the other in black indicating Train-Line pressure. We not only recommend, but we guarantee, this gauge to be superior to any duplex gauge manufactured, for accuracy, durability, compactness and finish.

These gauges are used on all the principal roads.

Fig. 1467.

Price, ... $20.00.

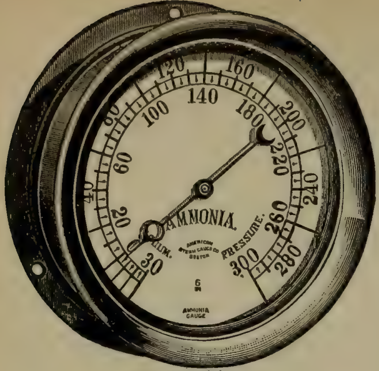


Fig. 1468.

AMMONIA GAUGE.

These Gauges have all interior parts of iron excepting the spring, which is of steel, to withstand ammonia or any other gas or acid which attacks the ordinary Bourdon spring.

Size.		Iron Case and Ring.	Iron Case N. P. Ring.
8 or 8½ in.	Dial,	$45.00	$45.75
6¾	“	40.00	40.60
6	“	35.00	35.50
5	“	30.00	30.00
4½	“	25.00	25.00
3½	“	25.00	25.00

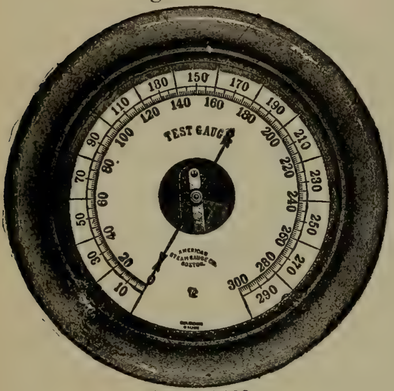


Fig. 1469.

STANDARD TEST GAUGES.

SPRINGS OF SOLID DRAWN OR BRAZED TUBES.

Each Gauge most carefully adjusted, tested and graduated in one pound marks.

Size.		Brass Case.	N. P. Case.
10 in.	Dial,	$50.00	$53.00
8½	“	40 00	42.50
6¾	“	30.00	32.00
6	“	25.00	26.50
5½	“	20.00	21.25
4½	“	16.00	17.00
3½	“	14.00	14.75
3	“	14.00	14.60

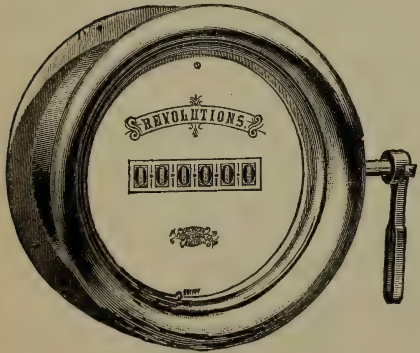


Fig. 1470.

REVOLUTION COUNTERS.

WARRANTED.

Size.				Brass Case.	N. P., O. G. or Oct. Ring.
12	in. Dial,	8	Wheels,	$110.00	$114.00
10	“	8	“	95.00	98.00
8½	“	8	“	80.00	82.50
12	“	6	“	100.00	104.00
10	“	6	“	85.00	88.00
8½	“	6	“	70.00	72.50
6¾	“	6	“	60.00	62.00
6	“	6	“	50.00	52.00

LOCOMOTIVE AND MARINE CLOCKS.

Fig 1471.

Size.		Movement.	Time,	Brass Case.	N. P. Case.
12 inch	Dial,	Howard,	8 day	$110.00	$114.00
10	“	“	“	90.00	93.00
8½	“	“	“	80.00	82.50
6¾	“	“	“	70.00	72.00
12	“	Seth Thomas,	“	90.00	94.00
10	“	“	“	65.00	68.00
8½	“	“	“	55.00	57.50
6¾	“	“	“	45.00	47.00
12	“	Boston,	“	90.00	94.00
10	“	“	“	65.00	68.00
8½	“	“	“	55.00	57.50
6¾	“	“	“	45.00	47.00
6	“	“	“	40.00	41.50
5½	“	“	“	38.00	39.25
5	“	“	“	35.00	36.00

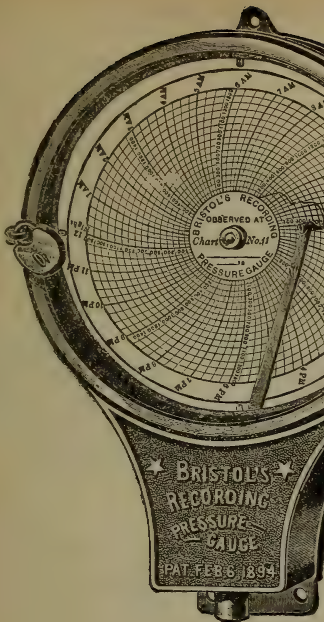

BRISTOL'S RECORDING PRESSURE GAUGE
PAT. FEB. 6 1894
BRISTOL'S RECORDING PRESSURE GAUGE
OBSERVED AT
Chart No. 11

Fig. 1472.

BRISTOL'S RECORDING PRESSURE GAUGE.

Makes a continuous record Day and Night

of

STEAM, WATER, GAS, OIL OR AIR PRESSURE.

This instrument may be placed in the office or engine room at any desired distance from boiler or vessel of which the pressure is to be recorded. If required, gauges are furnished with electric alarm for high or low pressure.

PARTIAL LIST OF BRISTOL'S RECORDING INSTRUMENTS.

Gauge No 14—For Gas or Air. Chart graduated to $\frac{1}{10}$ of 1 inch head of water. 24-hour chart. Total range, 0 to 4 inches.

Gauge No 19—For Gas or Air. Chart graduated to $\frac{1}{5}$ of 1 inch head of water. 24 hour Chart. Total range, 0 to 8 inches.

Gauge No. 24—For Gas or Air. Chart graduated to $\frac{1}{5}$ of 1 inch head of water. 24-hour Chart. Total range, 0 to 12 inches.

Gauge No. 21—For Gas or Air. Chart graduated to 1 inch head of water. 24 hour Chart. Total range, 0 to 24 inches.

Gauge No. 39—For working pressure to 375 lbs. Chart graduated to 25 lbs. per square inch. 24-hour Chart. Total range, 0 to 500 lbs.

Gauge No. 64—For working pressure to 750 lbs. Chart graduated to 50 lbs. per square inch. 24-hour Chart. Total range, 0 to 1000 lbs.

Gauge No. 26—For working pressure to 1200 lbs. Chart graduated to 50 lbs. per square inch. 24-hour Chart. Total range, 0 to 1500 lbs.

Gauge No. 38—For working pressure to 2000 lbs. Chart graduated to 100 lbs. per square inch. 24 hour Chart. Total range, 0 to 3200 lbs.

RECORDING GAUGES WITH ANY SPECIAL RANGES MADE TO ORDER.

Price.

Nickel-plated, including ink and 100 Charts	$50.00
Electric alarm attachment, extra, net	10.00
Additional charts, per hundred	.75
" " copying ink, per hundred	.85
Special recording gauge ink, per bottle	.25

We also furnish Bristol's Recording Instruments for electricity and temperatures.

THE HANCOCK LOCOMOTIVE INSPIRATOR.

TYPE "A."

Type "A" Locomotive Inspirators are identical in construction and efficiency and have the same capacities as Types "B" and "D," being different solely in the pipe connections, which interchange with other Locomotive Injectors.

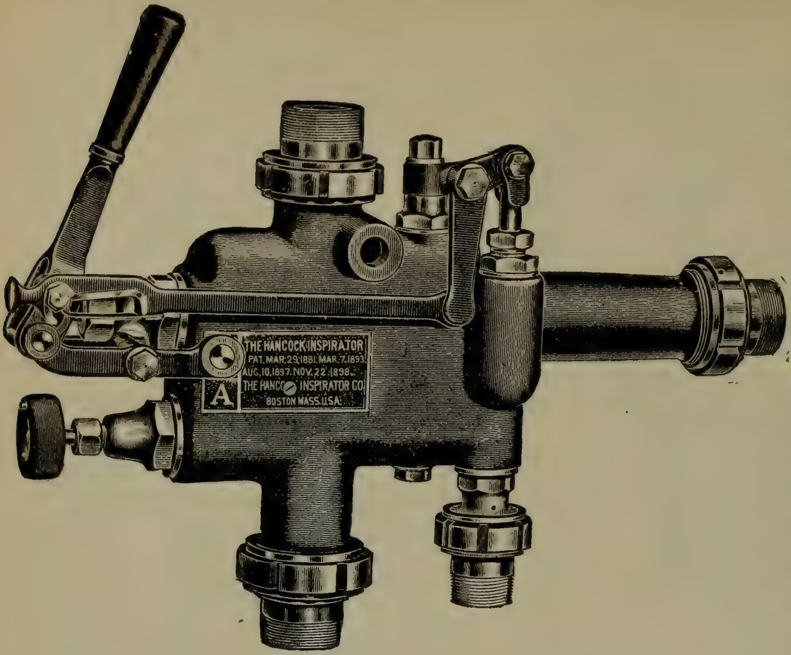

THE HANCOCK INSPIRATOR
PAT. MAR. 29. 1881. MAR. 7. 1893.
AUG. 10. 1897. NOV. 22. 1898.
THE HANCOCK INSPIRATOR CO.
BOSTON MASS. U.S.A.
A

Fig. 1473.

Capacities and Pipe Connections are given on page 419.

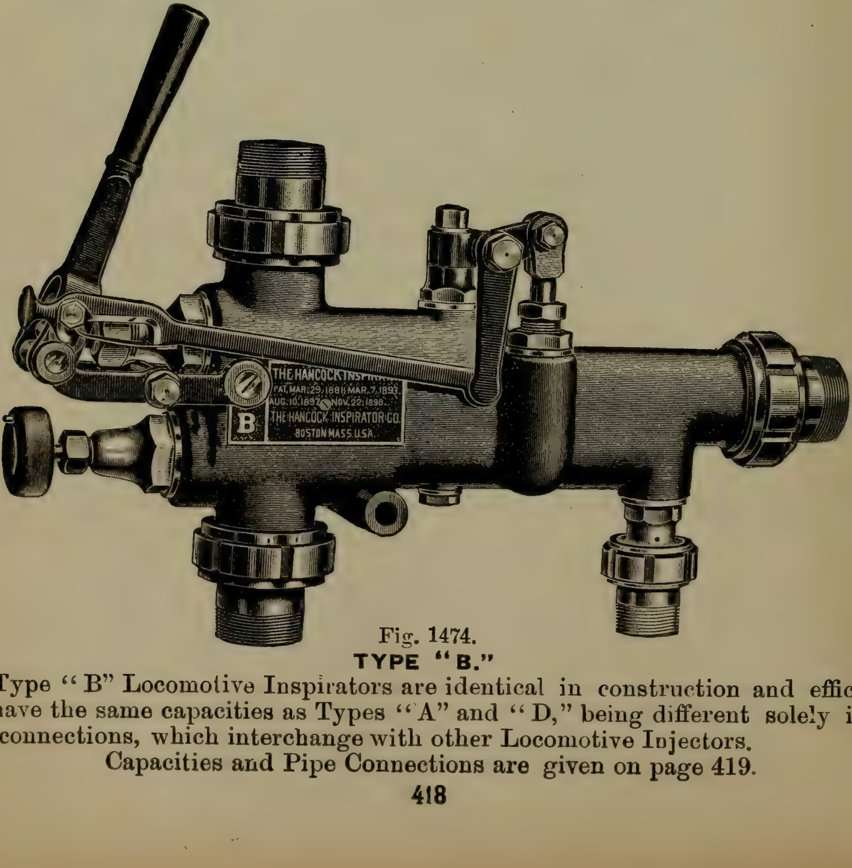

THE HANCOCK INSPI
PAT. MAR. 29. 1881. MAR. 7. 1893.
AUG. 10. 1897. NOV. 22. 1898.
THE HANCOCK INSPIRATOR CO.
BOSTON MASS. U.S.A.
B

Fig. 1474.

TYPE "B."

Type "B" Locomotive Inspirators are identical in construction and efficiency and have the same capacities as Types "A" and "D," being different solely in the pipe connections, which interchange with other Locomotive Injectors.

Capacities and Pipe Connections are given on page 419.

THE HANCOCK LOCOMOTIVE INSPIRATOR.

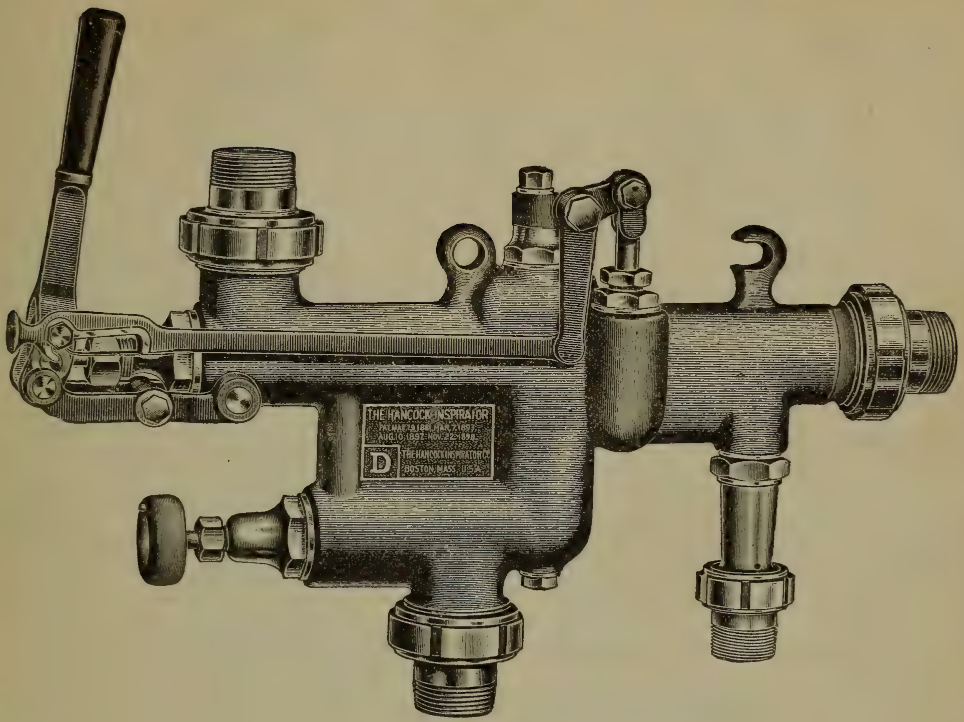

THE HANCOCK INSPIRATOR
PAT.MAR.29.1881. MAR.7.1893.
AUG.10.1897. NOV.22.1898.
D
THE HANCOCK INSPIRATOR CO.
BOSTON. MASS. U.S.A.

Fig. 1475.

"TYPE D."

"Type D" Locomotive Inspirators are a special design to conform to a certain class of injectors now in use with which they will interchange.

They are identical in construction and efficiency and have the same capacities as "Types A" and "B." Page 418.

PRICE LIST, CAPACITIES AND PIPE CONNECTIONS.

Size.	Type.	Price.	Capacity Per Hour Steam Pressures. 125 lbs.	210 lbs.	Pipe Connections. Steam. Iron.	Copper.	Suction. Iron.	Copper.	Delivery. Iron.	Copper.	Overflow. Iron.	Copper
5	A	$75.00	1,102 gals.	1,210 gals.	1¼	1½	1¼	1½	1¼	1½	1¼	1½
5	B	75.00	1,102 "	1,210 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
6	A	90.00	1,500 "	1,647 "	1¼	1½	1¼	1½	1¼	1½	1¼	1½
6	B	90.00	1,500 "	1,647 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
7	A	110 00	1,958 "	2,151 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
7	B	110.00	1,958 "	2,151 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
8	A	125.00	2,479 "	2,723 "	2	2	2	2¼	2	2	1½	1¾
8	B	125.00	2,479 "	2,723 "	2	2	2	2¼	2	2	1½	1¾
9	A	140.00	2,762 "	3,034 "	2	2	2	2¼	2	2	1½	1¾
9	B	140.00	2,762 "	3,034 "	2	2	2	2¼	2	2	1½	1¾
10	A	160.00	3,698 "	4,068 "	2	2¼	2½	2¾	2	2¼	1½	1¾
10	B	160.00	3,698 "	4,068 "	2	2¼	2½	2¾	2	2¼	1½	1¾

THE HANCOCK LOCOMOTIVE INSPIRATOR.

PRICE LIST, CAPACITIES AND PIPE CONNECTIONS.—CONTINUED.

Size.	Type.	Price.	Capacity Per Hour — Steam Pressures. 125 lbs.	210 lbs.	Pipe Connections. — Steam. Iron.	Copper.	Suction. Iron.	Copper.	Delivery. Iron.	Copper.	Overflow. Iron.	Copper.
3	C	$55.00	765 gals.	840 gals.	1¼	1½	1½	1¾	1¼	1½	1¼	1½
4	C	60.00	1,012 "	1,112 "	1¼	1½	1½	1¾	1¼	1½	1¼	1½
5	C	75.00	1,102 "	1,210 "	1¼	1½	1½	1¾	1¼	1½	1¼	1½
6	D	90.00	1,500 "	1,647 "	1¼	1½	1¼	1½	1¼	1½	1¼	1½
7	D	110 00	1,958 "	2,151 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
8	D	125.00	2,479 "	2,723 "	1½	1¾	1½	1¾	1½	1¾	1½	1¾
9	D	140.00	2,762 "	3,034 "	2	2¼	2	2	2	2¼	1½	1¾

DIRECTIONS FOR ORDERING.

Give the size and type of any other make of Injector with which a Locomotive Inspirator is ordered to interchange. Special Cab Lever Extensions are furnished for Inspirators to be located outside the Cab. Specify if Nipples and Coupling Nuts are required for Steam, Suction, Delivery or Overflow Connections; also whether Nipples are to be used with *iron* or *copper*, pipe. With orders for Repair Parts give both the *name* and *number* of the part required, and the *size* and *shop number* of the Inspirator, which is stamped on the top of the Body.

THE HANCOCK INSPIRATOR, TYPES "A" AND "C."

FOR STATIONARY AND MARINE BOILERS.

PRICE LIST, CAPACITIES AND PIPE CONNECTIONS.

THIS LIST ADOPTED MAY 1, 1900.

Sizes.	Type.	Prices Types A and C.	Pipe Connections — Steam.	Suction.	Delivery.	Overflow	Capacities Per Hour — With 60 Lbs. Steam Pressure.	With 100 Lbs. Steam Pressure.	Horse Power — For the Ordinary Type of Boiler and Engine.	On a Basis of 30 Lbs. Evaporation per H. P. per Hour.
10	C	$20.00	¾	¾	¾	¾	120 gals.	135 gals.	8 to 15	12 to 20
12½	C	25.00	¾	¾	¾	¾	220 "	245 "	15 to 30	20 to 40
15	C	30.00	¾	¾	¾	¾	300 "	340 "	30 to 45	40 to 55
17½	C	40.00	¾	1	1	1	420 "	475 "	45 to 65	55 to 80
20	C	45.00	¾	1	1	1	540 "	610 "	65 to 80	80 to 110
25	A	60.00	1¼	1¼	1¼	1¼	900 "	1020 "	80 to 130	110 to 180
30	A	75.00	1½	1½	1½	1½	1260 "	1430 "	130 to 170	180 to 235
35	A	90.00	1½	1½	1½	1½	1740 "	1975 "	170 to 230	235 to 300
40	A	110.00	2	2	2	1½	2230 "	2530 "	230 to 300	300 to 400
45	A	125.00	2	2	2	1½	2820 "	3200 "	300 to 375	400 to 500
50	A	150.00	2	2½	2	1½	3480 "	3950 "	375 to 500	500 to 650
55	A	200.00	2	2½	2	1½	3650 "	4140 "	500 to 600	650 to 750

NOTE.—The special "Regulating Valve" is not applied to the 10, 12½ and 15 sizes of Type "C" Inspirators. The *capacities* of Types "A" and "C" Inspirators *increase as the steam pressure increases*, and are *guaranteed* to be actual as listed with feed water at a temperature of 75° Fahrenheit on a 4-ft. lift. The Horse Power Ratings given are based upon Centennial Standard of an evaporation of 30 lbs. of water per Horse Power per hour. For the ordinary throttling engine deduct *one-third* from the Horse Power Rating of the Inspirator given in the above list.

THE "LOFTUS" AUTOMATIC OR RESTARTING INJECTOR.

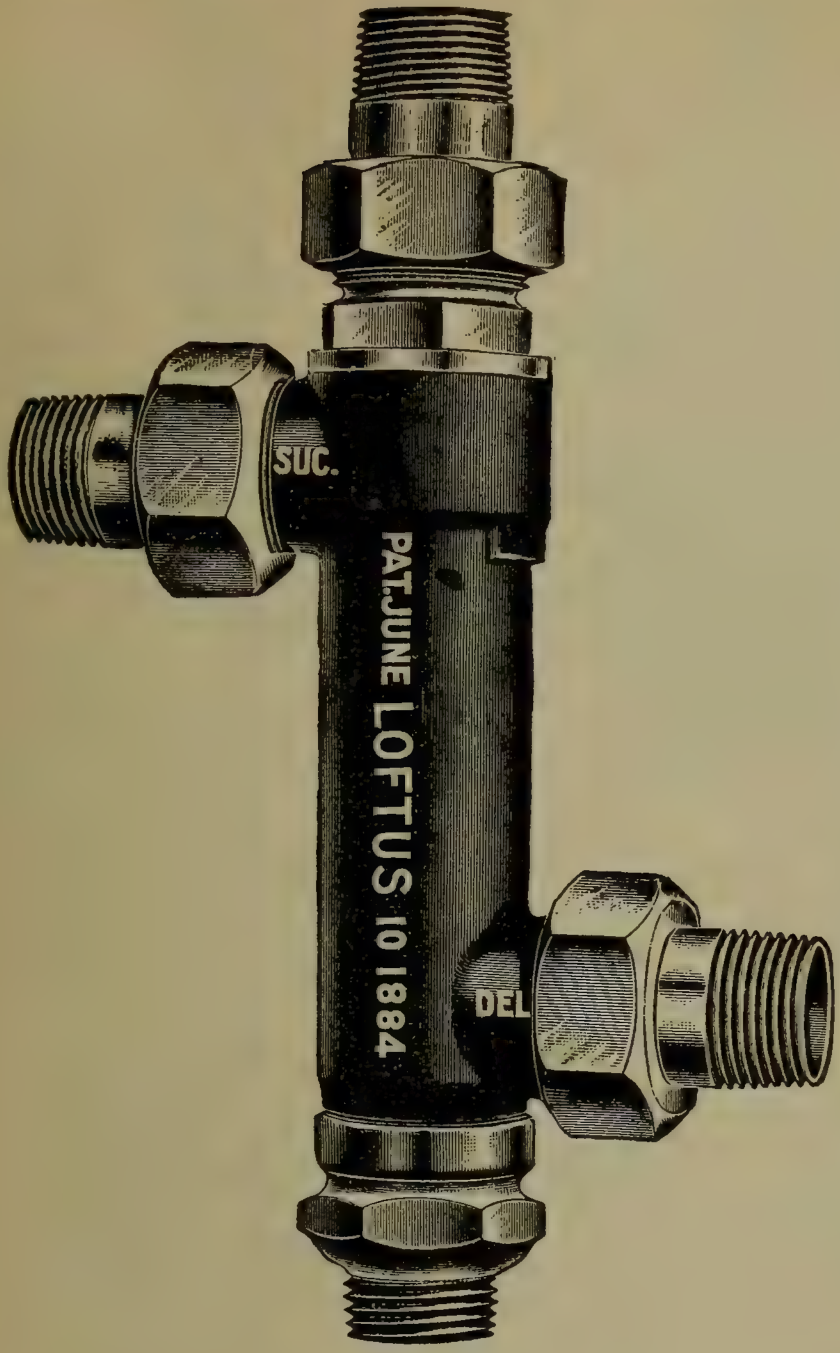


Fig. 1476.

**FOR STATIONARY AND PORTABLE
BOILERS, TRACTION AND
HOISTING ENGINES,
STEAM YACHTS
AND TOW
BOATS.**

Is *guaranteed to perform any service for which an injector of this type is adapted. Restarts instantly* if either steam or water supply is interrupted from any cause.

The Horse Power Ratings given below are based upon Centennial Standard of an evaporation of 30 lbs. of water per Horse Power per hour. For the ordinary throttling engine deduct *one-third* from the Horse Power Rating of the Inspirator given in the list below.

PRICE LIST, CAPACITIES AND PIPE CONNECTIONS.

Size.	Price.	Pipe Connections. Steam, Suction, Delivery and Overflow.	*Capacity per Hour with 80 Lbs. Steam Pressure.	Horse Power. For the Ordinary Type of Boiler and Engine.	Horse Power. On a Basis of 30 Lbs. Evaporation per H. P. per Hour.
0	$20.00	$\frac{1}{4}$	25 gals.	1 to 3	1 to 5
1	15.00	$\frac{3}{8}$	60 "	3 to 6	5 to 8
2	16.00	$\frac{3}{8}$	90 "	6 to 8	8 to 12
3	18.00	$\frac{1}{2}$	120 "	8 to 15	12 to 20
4	20.00	$\frac{1}{2}$	180 "	15 to 20	20 to 28
5	25.00	$\frac{3}{4}$	260 "	20 to 30	28 to 40
6	30.00	$\frac{3}{4}$	355 "	30 to 45	40 to 55
7	40.00	1	510 "	45 to 65	55 to 80
8	45.00	1	600 "	65 to 80	80 to 110
9	55.00	$1\frac{1}{4}$	800 "	80 to 100	110 to 145
10	60.00	$1\frac{1}{4}$	1000 "	100 to 130	145 to 180

*Capacities *guaranteed* to be actual as listed with feed water at a temperature of 75° Fahrenheit on a 4-ft. lift.

THE METROPOLITAN "1898" INJECTOR.

MODEL O.

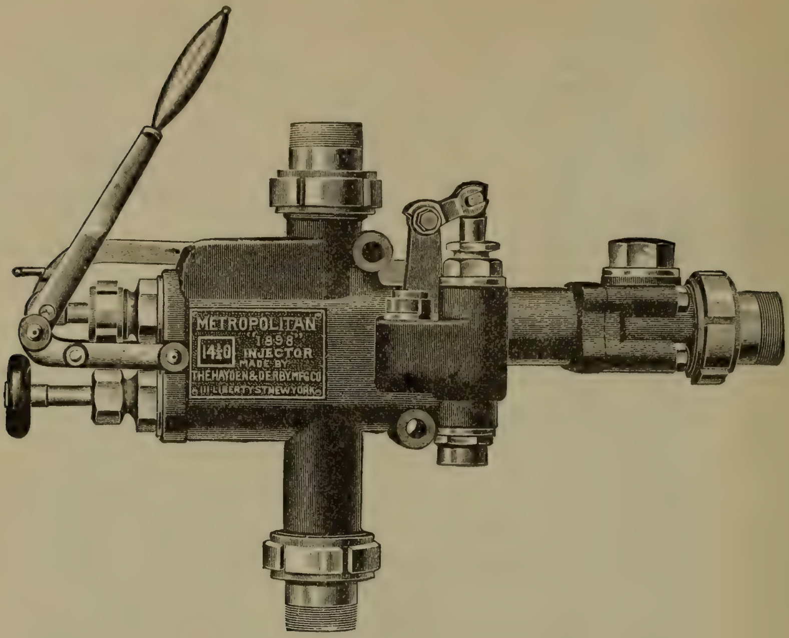


Fig. 1477.

Sizes.	Prices Model O.	Sizes of all Pipe Connections.	Size Overflow or Waste Pipe.	Capacity per Hour with 100 lbs. Steam Pressure.	Capacity per Hour with 175 lbs. Steam Pressure.	Horse-power for the Ordinary Type of Boiler and Engine.	Horse-power on a Basis of 30 lbs. Evaporation per H.P. per Hour.
7½	$40.00	1 in.	¾ in.	525 gals.	600 gals.	45 to 65	55 to 80
8½	45.00	1 "	¾ "	625 "	720 "	65 to 80	80 to 110
9½	55.00	1¼ "	1 "	835 "	950 "	80 to 100	110 to 145
10½	60.00	1¼ "	1 "	1040 "	1195 "	100 to 130	145 to 180
11½	75.00	1½ "	1¼ "	1350 "	1550 "	130 to 170	180 to 235
12½	90.00	1½ "	1¼ "	1800 "	2070 "	170 to 230	235 to 300
13½	110.00	2 "	1½ "	2350 "	2675 "	230 to 300	300 to 400
14½	125.00	2 "	1½ "	2900 "	3275 "	300 to 375	400 to 500
15½	150.00	2½ "	2 "	3600 "	3975 "	375 to 500	500 to 650
16½	200.00	2½ "	2 "	4300 "	4750 "	500 to 650	650 to 800

We send a flat strainer with sizes Nos. 7½ to 10½, inclusive.

FLAT STRAINERS FOR INJECTORS AND EJECTORS.

Made of Brass with Brass Wire Screen.

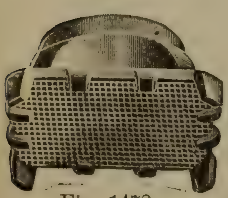


Fig. 1478.

PRICE LIST.

Size of Pipe Connections.	¼	¾	1	1¼	1½	2	2½	3	4
For Metropolitan Automatic Injectors,	2-3 3½-4	5-6	7-8	9-10	11-12	13-14			
For Metropolitan D. T. Injectors and Metropolitan "1898" Injectors,	2½-4½	5½-6½	7½-8½	9½-10½	11½-12½	13½-14½	15½-16½	17½-18½	
For H. D. Injectors, .	1	2	3	4	5	6	7	8	9
Prices, ...	$0.30	.40	.50	.60	.80	1.00	1.25	1.75	2.50

THE METROPOLTIAN AUTOMATIC INJECTOR.

MODEL N.

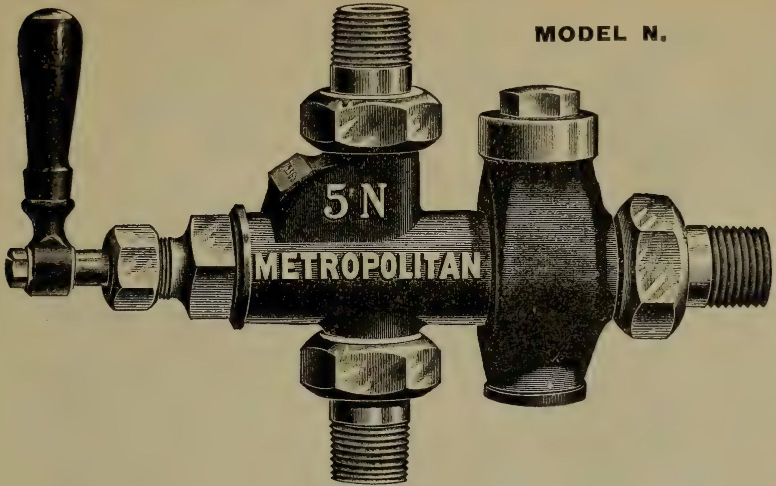


Fig. 1479.

Sizes.	Prices Model N.	Size of all Pipe Connections.	Size Overflow or Waste-pipe.	Capacity with 80 lbs. Steam Pressure 2ft. Lift.	Horse Power for the Ordinary Type of Boiler and Engine.	Horse Power on a Basis of 30 lbs. Evaporation per H. P. per Hour.
2	$15.00	$\frac{3}{8}$	$\frac{3}{4}$	60 gals.	4 to 6	5 to 8
3	16.00	$\frac{3}{8}$	$\frac{3}{4}$	80 “	6 to 8	8 to 12
3½	18.00	$\frac{1}{2}$	$\frac{3}{4}$	120 “	8 to 15	12 to 20
4	20.00	$\frac{1}{2}$	$\frac{3}{4}$	165 “	15 to 20	20 to 28
5	25.00	$\frac{3}{4}$	1	250 “	20 to 30	28 to 40
6	30.00	$\frac{3}{4}$	1	350 “	30 to 45	40 to 55
7	40.00	1	1¼	500 “	45 to 65	55 to 80
8	45.00	1	1¼	600 “	65 to 80	80 to 110
9	55 00	1¼	1½	800 “	80 to 100	110 to 145
10	60.00	1¼	1½	1000 “	100 to 130	145 to 180
11	75.00	1½	2	1300 “	130 to 170	180 to 235
12	90.00	1½	2	1750 “	170 to 230	235 to 300
13	110.00	2	2½	2300 “	230 to 300	300 to 400
14	125.00	2	2½	2850 “	300 to 375	400 to 500

We send a flat strainer with each of these Injectors, sizes No. 2. to No. 10. inclusive.

U. S. AUTOMATIC INJECTOR.

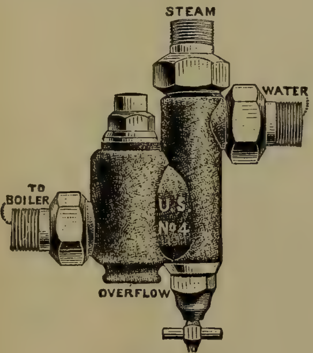


Fig. 1480.

Size.	All Pipe Connections.	Capacity* Gallons per Hour Max.	Min.	Horse Power.	Price.
00	¼ in	36	15	1 to 4	$13.00
0	$\frac{3}{8}$ “	65	28	3 “ 8	14.00
1	$\frac{3}{8}$ “	90	40	6 “ 10	16.00
2	½ “	125	60	8 “ 15	18.00
3	½ “	170	75	15 “ 20	20.00
4	¾ “	250	125	20 “ 30	25.00
5	¾ “	340	140	30 “ 40	30.00
6	1 “	475	250	40 “ 60	40.00
7	1 “	575	300	60 “ 70	45.00
8	1¼ “	750	350	70 “ 85	55.00
9	1¼ “	920	450	85 “ 120	60.00
10	1½ “	1350	675	120 “ 165	75.00

*The capacity is tested on a four foot lift with steam at 80 pounds. In ordering, always bear in mind that longer lift decreases capacity.

AMERICAN JET PUMPS.

PRICE LIST.

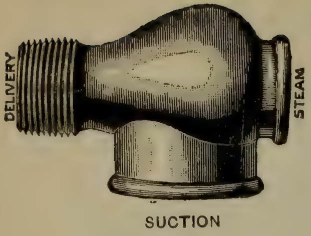


Fig. 1481.

No.	Size of Suction.	Size of Delivery.	Size of Steam Connection.	Gallons per Hour.	Price.
000	$\frac{3}{8}$ in.	$\frac{3}{8}$ in.	$\frac{1}{4}$ in.	150	$ 4.00
00	$\frac{1}{2}$ “	$\frac{3}{8}$ “	$\frac{1}{4}$ “	250	5.00
0	$\frac{3}{4}$ “	$\frac{1}{2}$ “	$\frac{3}{8}$ “	375	6.00
1	1 “	$\frac{3}{4}$ “	$\frac{1}{2}$ “	500	7.50
2	$1\frac{1}{4}$ “	1 “	$\frac{3}{4}$ “	1000	10.00
3	$1\frac{1}{2}$ “	$1\frac{1}{4}$ “	1 “	1500	12.50
4	2 “	$1\frac{1}{2}$ “	$1\frac{1}{4}$ “	2000	15.00
5	$2\frac{1}{2}$ “	2 “	$1\frac{1}{2}$ “	2800	17.50
6	3 “	$2\frac{1}{2}$ “	2 “	3800	25.00
7	4 “	3 “	2 “	6500	35.00
8	5 “	4 “	$2\frac{1}{2}$ “	10000	45.00

THE HANCOCK “EJECTOR” OR JET PUMP.

The Hancock “Ejector” is designed for use at Railroad Water Stations, on construction trains, for emptying wheel pits and similar railroad service; also for transporting liquids, either hot or cold, in tanneries, dye-houses, etc. All sizes will lift liquids 25 feet and elevate them about 15 feet above the Ejector with a steam pressure of 60 pounds. If it is desired to elevate liquids a greater distance than 40 feet, the Ejector should be placed near the liquid so that it can be forced by the Ejector.

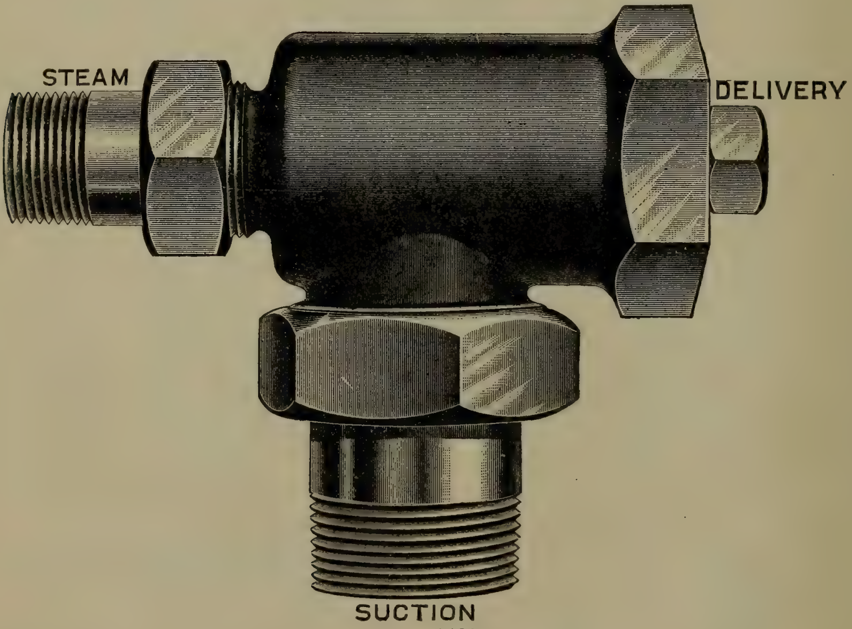


Fig. 1482.

PRICE LIST, CAPACITIES AND PIPE CONNECTIONS.

Size.	Capacity per Hour. Steam Pressure, 60 lbs.	Pipe Connections. Steam.	Pipe Connections. Suction and Delivery.	Price.
No. 1 Brass.	244 gals.	$\frac{1}{4}$ inch.	$\frac{1}{2}$ inch.	$8.00
“ 2 “	550 “	$\frac{3}{8}$ “	$\frac{3}{4}$ “	10.00
“ 3 “	977 “	$\frac{1}{2}$ “	1 “	15.00
“ 4 “	1,525 “	$\frac{3}{4}$ “	$1\frac{1}{4}$ “	20.00
“ 5 Iron.	2,200 “	$\frac{3}{4}$ “	$1\frac{1}{2}$ “	25.00
“ 6 “	3,900 “	1 “	2 “	35.00
“ 7 “	6,000 “	$1\frac{1}{4}$ “	$2\frac{1}{2}$ “	45.00
“ 8 “	8,800 “	$1\frac{1}{2}$ “	3 “	55 00
“ 9 “	15,600 “	2 “	4 “	70.00
“ 10 “	24,300 “	$2\frac{1}{2}$ “	5 “	110.00
“ 11 “	35,000 “	$2\frac{1}{2}$ “	6 “	160.00

AMERICAN EJECTOR.

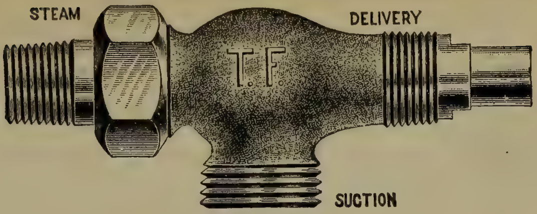


Fig. 1483.

PRICE LIST.

No.	Size of Suction.	Size of Delivery.	Size of St am Connection.	Gallons per Hour.	Price.	No.	Size of Suction.	Size of Delivery.	Size of Steam Connection.	Gallons per Hour.	Price.
000	3/8 in.	3/8 in.	1/4 in.	150	$6.00	4	2 in.	1 1/2 in.	1 1/4 in.	2000	25.00
00	1/2 "	3/8 "	1/4 "	250	8.00	5	2 1/2 "	2 "	1 1/2 "	4000	35.00
0	3/4 "	1/2 "	3/8 "	375	9.00	6	3 "	2 1/2 "	2 "	8000	40.00
1	1 "	3/4 "	1/2 "	500	10.00	7	4 "	3 "	2 "	11000	50.00
2	1 1/4 "	1 "	3/4 "	1000	15.00	8	5 "	4 "	2 1/2 "	15000	65.00
3	1 1/2 "	1 1/4 "	1 "	1500	20.00	9	6 "	5 "	2 1/2 "	45000	175.00

These Ejectors are especially adapted for lifting and forcing water from a lower level to a great height, for instance, from pits, mines or quarries, up to the surface, or to fill tanks at any great elevation above the water level.

To enable one to know where to locate the Ejector, please note:

With 40 pounds steam—Placed 22 feet above water will discharge 20 feet above Ejector; placed 15 feet above water will discharge 27 feet above Ejector; placed 10 feet above water level will discharge 27 feet above Ejector; placed 5 feet above water level will discharge 29 feet above Ejector.

With 80 Pounds Steam—	With 125 Pounds Steam—
Lifts 18 feet and elevates above itself 55 feet.	Lifts 15 feet and elevates above itself 76 feet.
" 15 " " " 59 "	" 10 " " " 83 "
" 10 " " " 61 "	" 5 " " " 90 "
" 5 " " " 66 "	

THE H-D EJECTOR.

MODEL C.

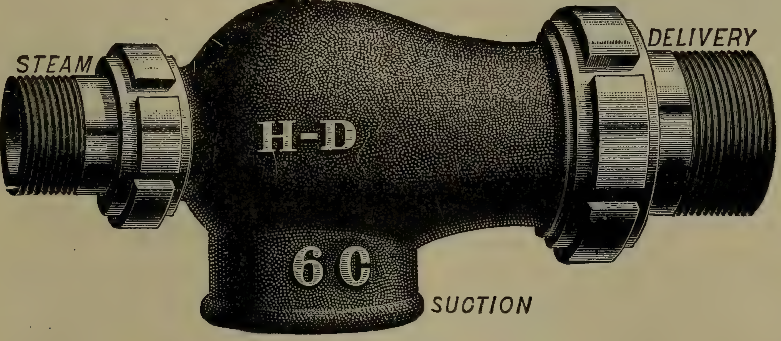


Fig. 1484.

Sizes.	Prices Model C.	Pipe Connections Steam.	Pipe Connections Suction and Delivery.	Capacity per Hour with 50 lbs. Steam Pressure
No. 1 Brass.	$8.00	3/8	1/2	250 gals.
" 2 "	10.00	1/2	3/4	500 "
" 3 "	15.00	3/4	1	960 "
" 4 "	20.00	1	1 1/4	1300 "
" 5 "	25.00	1 1/4	1 1/2	2000 "
" 6 Iron.	35.00	1 1/4	2	4000 "
" 7 "	45.00	1 1/2	2 1/2	8000 "
" 8 "	55.00	2	3	11000 "
" 9 "	70.00	2 1/2	4	15000 "
" 10 "	175.00	4	6	45000 "

No. 6 has iron body, balance brass. Nos. 7 and 8 have iron bodies and delivery connections, balance brass. No. 9 has brass tubes, balance iron. No. 10 has iron body, brass tubes, all connections flanged.

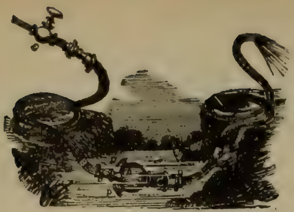


Fig. 1485.

LANSDELL'S PORTABLE RAILWAY SYPHON.

Shipped complete with Hose and Fittings for supplying construction engines with water.

No. 1 will supply the ordinary quantity of water required by a tender in 10 to 12 minutes; No. 2, in 6 to 8 minutes.

Price No. 1.

With 25 feet each,	steam	and discharge	Hose	$110.00
" 30	"	"	"	125.00
" 35	"	"	"	135.00
" 40	"	"	"	145.00
" 45	"	"	"	155.00
" 50	"	"	"	165.00

Price No. 2.

With 25 feet each,	steam	and discharge	Hose	$145.00
" 30	"	"	"	155.00
" 40	"	"	"	180.00
" 50	"	"	"	200.00

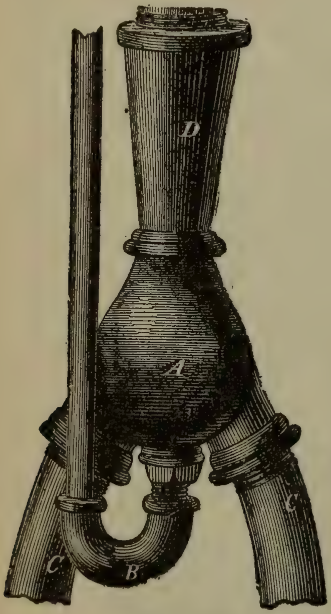


Fig. 1486.

LANSDELL'S STEAM SYPHON PUMP.

High Pressure Pumps are constructed to work with 30 lbs. and upwards of steam pressure. Low pressure from 30 to 15 lbs.

The capacity of each size as given in the price list is based upon 60 lbs. steam pressure at the pump and 15 feet lift. With a greater lift or less steam these capacities will be reduced.

PRICE IRON BODY DOUBLE SUCTION.

No.	Capacity in Gallons Per Minute.	Horse Power Required.	Diameter of Discharge.	Diameter of Steam.	Prices. High Pressure.	Prices. Low Pressure.
3.	30	1	¾ Screwed.	½	$8.00	$10.00
4.	50	1½	1 "	¾	10.00	12.50
5.	120	4	1½ "	1	17.50	20.00
6.	200	6	2 "	1¼	22.50	25.00
7.	320	8	2½ Flanged.	1½	35.00	40.00
8.	450	12	3 "	1½	45.00	50.00
9.	800	25	4 "	2	65.00	75.00
10.	1800	50	6 "	2½	150.00	175.00

DOUGLAS BOLT-FASTENED REVOLVING STAND PUMP.

With Patent Adjustable Ears and Brass Valve Seat. For Lifting Water 25 feet or less.

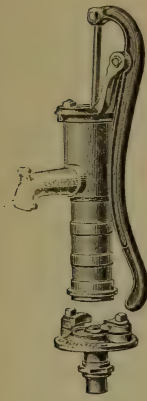


Fig. 1487.

Fig. 1487 represents a very popular style of Cistern Pump, which has been known to the trade for over 50 years, and needs no explanation of its operation. We insert the cut here to call attention to the very important improvement which has been added and secured by Letters Patent, said improvement being the manner of securing the cylinder to the base by means of the adjustable ears and two bolts. The old style, with ears cast on cylinder, is liable to be broken by screwing the cylinder down to its place, thus causing a total loss of the cylinder. By these adjustable ears the spout can be placed in any position. This Pump has a brass valve seat, and is complete in every respect. Adapted for either iron or lead pipe.

Size.	Bore.	Stroke.	Pipe.	Capacity Per Stroke.	Price.
No. 0.	2 inch.	3¾ inch.	¾ inch.	.042 gals.	$3.50
" 1.	2¼ "	5 "	¾ or 1 "	.072 "	4.00
" 2.	2½ "	5 "	1 or 1¼ "	.088 "	4.50
" 3.	2¾ "	6¾ "	1¼ or 1½ "	.145 "	5.00
" 4.	3 "	6¾ "	1½ or 1¾ "	.171 "	5.50
" 5.	3¼ "	7¼ "	1½ or 1¾ "	.217 "	6.50
" 6.	3½ "	7¼ "	2 or 2¼ "	.250 "	8.00
" 8.	4 "	7¼ "	2 or 2½ "	.327 "	10.00
" 10.	4½ "	7½ "	2½ or 3 "	.428 "	12.00

DOUGLAS BRASS CYLINDER PATENT REVOLVING STAND "PREMIUM" SUCTION PUMP.

All Parts Brass but Brake, Stand and Flange.

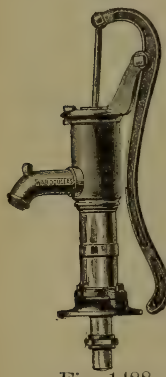


Fig. 1488.

Fig. 1488 is a Cut of a Brass Cylinder Patent Revolving Stand Premium Pump, of which seven regular sizes are made. The cylinder, piston, valve seat and tube, and all parts below the spout, excepting the flange, are Brass. It is constructed with patent detachable ears and two bolts to hold the cylinder to the base, which is a decided improvement over the old screw base, as the cylinder can be readily changed round so as to place the spout in any position, and the valves are easier of access. The Pump lets off the water to avoid freezing.

Size.	Bore.	Stroke.	Pipe.	Capacity Per Stroke.	Price.
No. 0.	2 inch.	3¾ inch.	¾ inch.	.042 gals.	$5.25
" 1.	2¼ "	5 "	¾ or 1 "	.072 "	6.00
" 2.	2½ "	5 "	1 or 1¼ "	.088 "	7.00
" 3.	2¾ "	6¾ "	1¼ or 1½ "	.145 "	8.00
" 4.	3 "	6¾ "	1½ or 1¾ "	.171 "	10.00
" 5.	3¼ "	7¼ "	1½ or 2 "	.217 "	13.00
" 6.	3½ "	7¼ "	2 or 2¼ "	.250 "	18.00

DOUGLAS BOLT-FASTENED PATENT "PITCHER-SPOUT" SUCTION PUMP.

With Brass Valve Seat. To Lift from Depths of 25 Feet or Less.

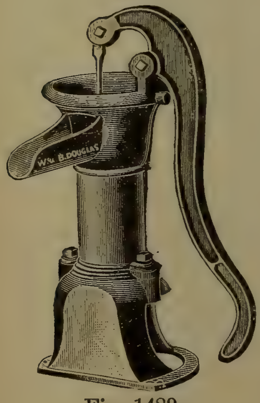


Fig. 1489.

Fig. 1489 is a Cut of a Bolt-Fastened Pitcher-Spout Pump. This is a very simple and perfect Pump, all the parts being readily got at by the most inexperienced hands. Particularly adapted for Cisterns and Shallow Wells. For any height under, say 25 feet, they will raise a greater quantity of water in a given length of time, with the same power applied, than any other style of Pump in use. It has the *Revolving top neatly arranged* on the *upper* end of *cylinder*, outside of the water passage, and cannot be affected by rust. It is arranged to let the water back to avoid freezing. The *lower valve seat* is of Brass, which, being non-rustable, will not become eaten when the Pump is unused. Fig. 1489 is also arranged with suitable couplings for either *Lead* or *Iron* pipe.

Size.	Bore.	Stroke.	Pipe.	Price. Iron.
No. 1.	2½ inch.	4½ inch.	¾ or 1 inch.	$4.25
" 2.	3 "	4¼ "	1 or 1¼ "	4.75
" 3.	3½ "	4 "	1¼ or 1½ "	5.25
" 4.	4 "	4½ "	1½ or 1¾ "	6.25
" 5.	4½ "	4½ "	2 or 2½ "	9.50
" 6.	5 "	4¾ "	2½ or 3 "	17.00

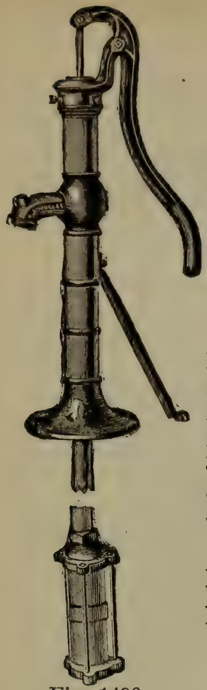


Fig. 1490.

"SWAN" OPEN TOP SUCTION WELL PUMP.

Anti-Freezing. With Screw or Bolted Cylinder and Revolving Stand.

This Pump is the most popular cheap Suction Out-Door Pump. Constructed with raised iron valve seat and revolving top it is well fitted for the many uses to which it may be put on out-door cisterns or driven wells.

It will be sent with brace if so ordered. If desired without connecting pipe and rod deduct 50 cents from the list.

PRICES, ETC.

Bore.	Stroke.	Iron Suction Pipe.	Price. Standard No. 1. 29 in. Tall.	Price. Standard No. 2. 32 in. Tall.	Price Standard No. 3. 35 in. Tall.
2¼ in.	No. 1 Size	1 in.	$7.00	$7.25	$7.75
2½ "	5¼ in.	1¼ "	7.50	7.75	8.25
2¾ "	No. 2 Size	1¼ "	8.00	8.25	8.75
3 "	6 in.	1¼ "	8.50	8.75	9.25
3¼ "	No. 3 Size	1¼ or 1½ "	9.00	9.25	9.75
4 "	6 in.	2 "	. .	13.00	14.00

Standard only without lower cylinder or connecting pipes. Base tapped for 1¼ inch iron pipe.

No. 1 Size.	No. 2 Size.	No. 3 Size.
$5.00	$5.50	$6.50

DOUGLAS "IDEAL" PATENT WELL SUCTION AND FORCE PUMP.

With Screw or Bolted Lower Cylinder.

This cut shows what seems now to be the most popular common Out-Door Force Pump made. It has brace, lower cylinder and connection rod and pipe for use in wells over 25 feet deep. The brake may be placed in any position and lower valve easily reached for repair. Where a strong out-door common service Force Pump is needed we can commend the "Ideal" as the acme in its line.

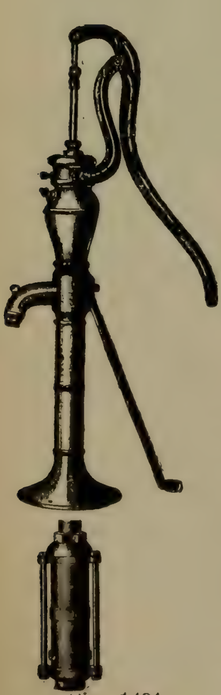


Fig. 1491.

PRICES, SPECIFICATIONS, ETC.

No. 1, with Standard or spout section about 51 in high to top of brake.

Bore of Working Cylinder.	Stroke.	Wrought Iron Set-length.	Capacity Per Stroke.	Price.
2½ inch	5 inch	3 ft. of 1¼ inch	.088 gals.	$13.25
2¾ "	5 "	3 " 1¼ "	.107 "	13.50
3 "	5 "	3 " 1¼ "	.127 "	13.75
3¼ "	5 "	3 " 1½ "	.15 "	14.25
3½ "	5 "	3 " 1½ "	.173 "	14.75

No. 2. with Standard or spout section about 55 in. high to top of brake.

Bore of Working Cylinder.	Stroke.	Wrought Iron Set-length.	Capacity Per Stroke.	Price.
3 inch	7 inch	3 ft. of 1½ inch	.177 gals.	$18.00
3¼ "	7 "	3 " 1½ "	.21 "	18.25
3½ "	7 "	3 " 1½ "	.242 "	19.25
4 "	7 "	3 " 2 "	.316 "	20.75

STANDARD OR SPOUT SECTION WITHOUT LOWER CYLINDER OR CONNECTIONS.

No. 1, with lower end tapped for 1¼ in. iron pipe	$10.25
" 2, " " " 1½ " "	14.50

DOUGLAS PATENT "SWAN" FORCE PUMP.

Anti-Freezing. With 3 Feet Wrought-Iron Set-Length. Lower Cylinder Either Bolted or Screwed Together as Ordered. With Patent Detachable Ears.

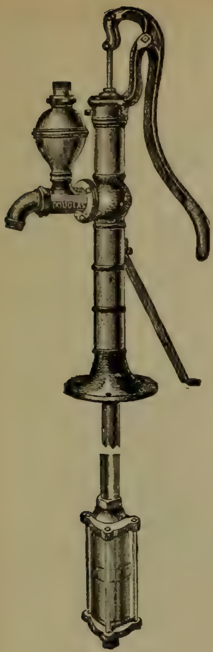


Fig. 1492.

Fig. 1492 shows the popular "Swan" Yard Force Pump, a very nice article for forcing water in any direction, watering gardens, washing windows or carriages, and for fire purposes. We recommend it as a very ornamental and substantial article. The Standard is secured to the base by patent detachable ears, which allows the upper section to be placed in any position desired, and has the advantage of not destroying the entire cylinder in case of breakage of ears.

Height from base of Standard to top of brake, 44 inches; stroke, 6 inches.

Bore.	Stroke.	Suction Pipe.	Capacity per Stroke.	Price.
2¾ in.	6 in.	1¼ in.	.129 gals.	$15,25
3 "	6 "	1¼ "	.152 "	15.25
3¼ "	6 "	1½ "	.189 "	15.75
3½ "	6 "	1½ "	.207 "	16.25

Price of Standard or upper section only, each, $11.00.

Deduct 25 cents from above list when ordered without brace.

Deduct 50 cents from list when ordered without set-length pipe between cylinder and Standard.

DOUGLAS BOLT-FASTENED PATENT IMPROVED SUCTION AND FORCE PUMPS.

All With Brass Piston Rod and Revolving Brake Stand.

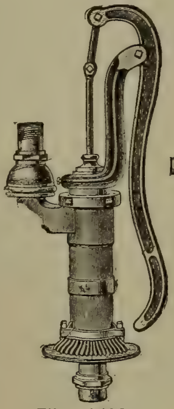


Fig. 1493.

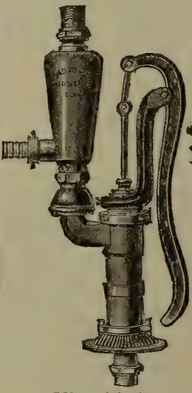


Fig. 1494.

WITH AIR BARREL.

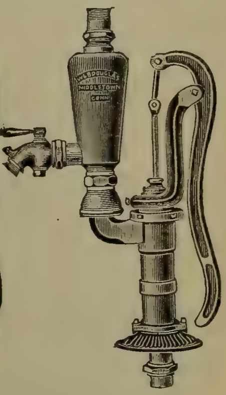


Fig. 1495.

WITH AIR CHAMBER AND COCK IN SPOUT.

Figs. 1493, 1494, 1495 are the most popular common style Force Pumps made.

They will throw water some sixty or seventy feet from hose pipe, making them most invaluable for every house for extinguishing fires, as a stream can be forced over any ordinary two-story house.

The air-barrel styles have a discharge coupling at the top, and also at the side of the air-barrel; there is a circular plate in the top coupling, which can be placed in the side coupling when the pipe is to go on at the top, or in the top coupling when the side discharge is to be used, constituting it an air-chamber or barrel, for either the top or side openings. The Brass Pumps are ALL PARTS BRASS, except the Brakes, Stands, Flanges, and Air Barrels. The Brass Cylinder style have the working parts of brass and are fastened to the cylinder with patent detachable ears, which allow spout and brake to be placed at any desired angle from each other.

Size, No.	Bore, Inches.	Stroke. Inches.	Suction Pipe, Inches.	Prices Shown by Fig. 1493. Iron.	Prices Shown by Fig. 1493. Brass Cylinder.	Price with Air-Barrel, like Fig. 1494. Iron.	Price with Air-Barrel, like Fig. 1494. Brass Cylinder.	Prices with Air-Barrel and Cock, Fig. 1495. Iron.	Prices with Air-Barrel and Cock, Fig. 1495. Brass Cylinder.
0	2 in.	4 in.	¾	$8.00	$11.50	$9.00	$12.50	$10.50	$13.00
1	2½ "	4 "	¾ or 1	8.75	12.00	9.75	14.00	11.25	14.00
2	2½ "	5 "	1 or 1¼	9.50	14.00	11.00	15.00	12.50	15.00
3	2¾ "	5¼ "	1¼ or 1½	10.00	14.50	12.00	16.00	13.50	18.00
4	3 "	5¼ "	1½ or 1¾	11.00	15.00	13.00	17.00	14.50	20.00
6	3½ "	5½ "	1¾ or 2	14.00	24.00	16.00	27.00	18.00	30.00

CAPACITY PER STROKE:

No. 0, .045; No. 1, .057; No. 2, .088; No, 3, .112; No. 4, .133; No. 6, .190 gallons.

DOUGLAS PATENT "SIDE-EARED" SUCTION AND FORCE PUMP.

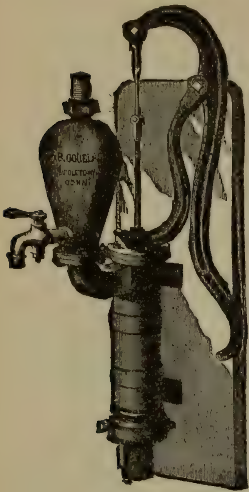


Fig. 1496.

With Revolving Brake Stand, Brass Piston Rod and Interchangeable Air-Barrel Plate. With Grained Plank.

The cut shows Fig. 1496, with Air-Barrel and Cock. This is a very convenient model for securing to the side of a building or partition, having two openings for discharge pipes is suited for applying hose at the side for extinguishing fires, watering grounds, washing windows, carriages, etc., and at the same time may have a pipe connected on at the top of the air-chamber, to carry water above the Pump, into tanks in upper stories of buildings, for bathing rooms, factories, etc., or by screwing off the couplings at side or taking off the hose at that point, may be used as a common lift Pump to discharge into a pail at the spout.

There is a circular plate in the upper coupling which is to be retained there to form a perfect air-chamber when the side coupling is used, with hose on same for throwing water in a steady, powerful stream through a discharge pipe; and this plate is to be changed to the side coupling when the Pump is to be used to force water through the pipe from the upper coupling, and so often changed as occasion may require.

The break and stand swivel around to either side, to adapt to right or left hand use. It has a brass piston rod and brass lower valve-seat.

The Brass Pumps have all parts brass, except the brakes, stands and air-barrels. We can furnish these with bolted valve-seat when so ordered.

When ordered without Cock, one dollar and fifty cents will be deducted from the list on all sizes except No. 6, and on that size two dollars. We can also furnish this Pump without the plank if so ordered.

Peices, Specifications, Etc.

Size.	Bore.	Stroke.	Suction Pipe.	Capacity Per Stroke.	Iron.	Brass.	Brass Cylinder.
No. 0.	2 in.	4 in.	¾ in.	.045 gals.	$10.50	$18.00	$14.00
“ 1.	2¼ “	4 “	1 “	.057 “	11.25	21.00	15.50
“ 2.	2½ “	5 “	1 or 1¼ “	.088 “	12.50	23.50	16.50
“ 3.	2¾ “	5¼ “	1¼ “	.112 “	13.50	31.00	18.00
“ 4.	3 “	5¼ “	1½ or 2 “	.133 “	14.50	35.00	21.00
“ 6.	3½ “	5½ “	1½ or 2 “	.240 “	18.00	40.00	29.00

DOUGLAS ACME DIAPHRAGM PUMP.

Frictionless and non-chokeable. For Contractors' Use.

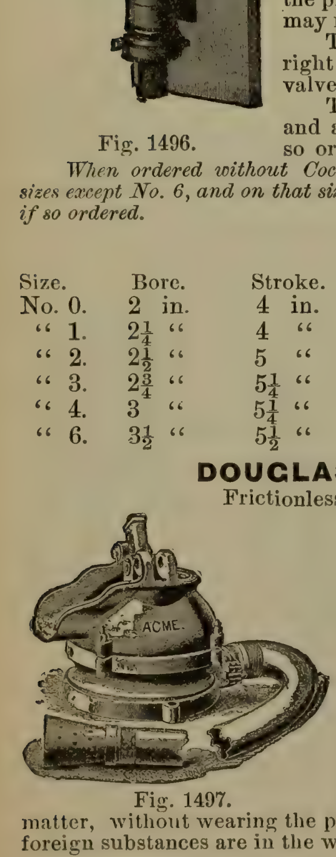


Fig. 1497.

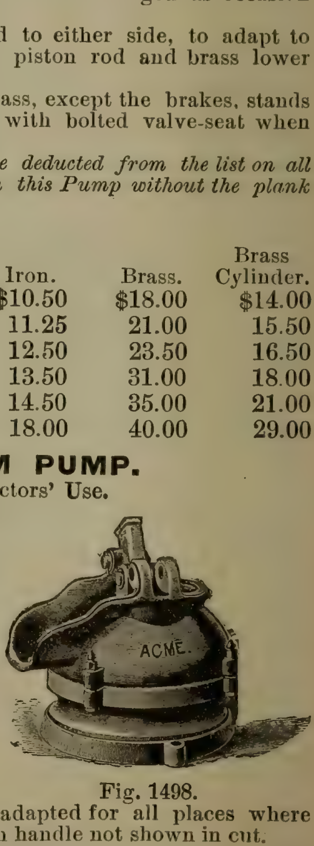


Fig. 1498.

Cuts show the Patent Diaphragm Pump, which we can recommend as the very best article in the market, where a pump is required to discharge a large quantity of water with the least possible labor. Especially adapted for use on vessels, railroads, and by contractors for sewers, foundations of buildings, etc., as the valves will discharge matter containing sand, gravel, coal dirt, tar, mud, drainage, grain and sanitary matter, without wearing the pump. This makes it particularly adapted for all places where foreign substances are in the water. It has a heavy wrought-iron handle not shown in cut.

Fig. 1497. Prices.

No. 1.	9 in. diaphragm, for 2½-in. iron pipe or hose, suction on the side without hose	$38.00
No. 2.	12½ in. “ “ 3 “ “ “ “ “ “	43.00

Fig. 1498. Prices.

No. 1.	9-in. diaphragm, for 2½-in. iron pipe, capacity per stroke, ¾ gallon, suction connection at bottom	$35.00
No. 2.	12½-in. diaphragm, for 3-in. iron pipe, capacity per stroke, 1½ gallon, suction connection at bottom	40.00

Fig. 1497 and Fig. 1498 both have the same capacity.

The Diaphragms are made of best Para Rubber. Extra Diaphragms can be furnished at a reasonable charge, and the Pump set in perfect order for a long time at a trifling expense.

HORIZONTAL DOUBLE-ACTING SUCTION AND FORCE PUMP.

With Brass Lined Cylinder and Large Air-Barrel.

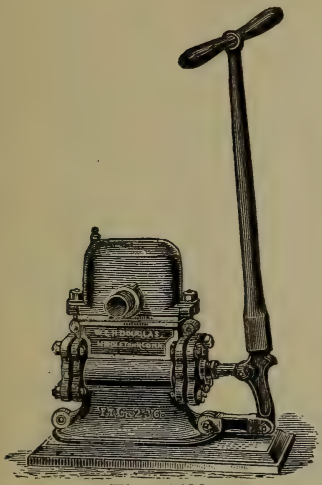

W. & B. DOUGLAS.
MIDDLETOWN, CONN.
FIG. 236.

Fig. 1499.

Fig. 1499 shows Horizontal Double-Acting Suction and Force Pump, a valuable Pump for ships, factories, railroad stations, fire use, etc. The valves are all readily accessible by simply unscrewing the bolts and lifting off the air-chamber, without disturbing the suction pipes.

DIMENSIONS.

No.	Bore.	Stroke.	Suction Pipe.	Discharge Pipe.	Capacity per Stroke.
1	2½ in.	5¼ in.	1¼ in.	1¼ in.	.184 gals.
2	3 "	5¼ "	1½ "	1¼ "	.266 "
3	4 "	5¼ "	2 "	1½ "	.474 "
4	5 "	5¾ "	2½ "	2 "	.804 "
5	6 "	6½ "	3 "	2½ "	1.312 "

PRICES.

No.	Iron, Brass Lined.	Iron, Brass Lined with Metal Valves and Spring Piston.	All Brass, with Metal Valves and Spring Piston.
1	$25.00	$30.00	$100.00
2	27.00	33.00	120.00
3	28.00	35.00	130.00
4	35.00	44.00	160.00
5	40.00	51.00	200.00

Copper Lining, $5.00 Net Extra.

HORIZONTAL DOUBLE-ACTING SUCTION AND FORCE PUMP.

With Brass Lined Cylinder.

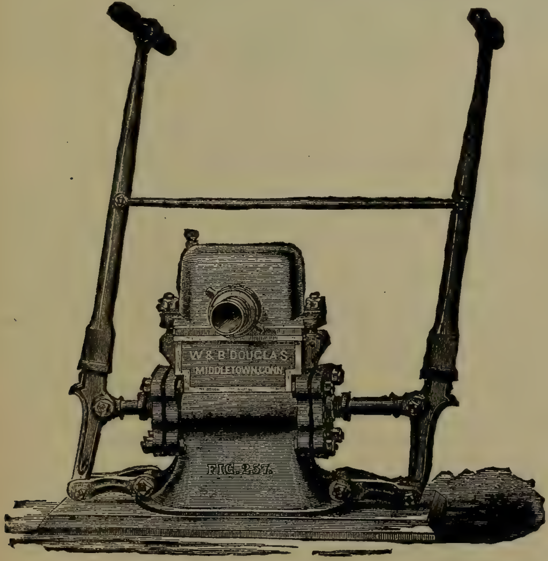

W. & B. DOUGLAS.
MIDDLETOWN, CONN.
FIG. 257.

Fig. 1500.

Fig. 1500 shows Horizontal Double Acting Suction and Force Pump, arranged with brake at each end to afford means of applying great power. This Pump is similar in construction to Fig. 1499, having the valves all under the cap, which can be repaired by simply unscrewing the nuts on the hinge bolts and lifting off the air-chamber, without disturbing the suction pipe.

PRICES AND DIMENSIONS.

No.	Bore.	Stroke.	Suction Pipe.	Discharge Pipe.	Capacity per Stroke.	Iron Brass Lined.	Iron, Brass Lined, with Metal Valves and Spring Piston.	All Brass with Metal Valves and Spring Piston.
1	4 in.	5¼ in.	2 in.	1½ in.	.474 gals.	$40.00	$47.00	$140.00
2	5 "	6 "	2½ "	2 "	.840 "	45.00	54.00	170.00
3	6 "	5½ "	3 "	2½ "	1.110 "	50.00	61.00	210.00

We can line with copper, when so ordered, for $5.00 extra.

“EXCELSIOR” HORIZONTAL DOUBLE-ACTING SHIP PUMP.

With Copper-lined Cylinder, Adjustable Lever, Metallic Valves, Etc.

All appurtenances for fitting, etc., go complete with each pump. Arranged for hose, and lead or iron pipe connections. Prices quoted below do not include hose.

DIMENSIONS.

No.	Suction. Inches.	Discharge. Inches.	Diam. Cylinder. Inches.	Stroke. Inches.	Capacity Per Rev. Gallons.
1	1¼	1¼	3	5	$\frac{3}{10}$
2	1½	1¼	4	5	$\frac{1}{2}$
3	2	2	5	5	$\frac{85}{100}$
4	2½	2½	6	5	$1\frac{2}{10}$

PRICES.

No.			Iron.	Brass Cylinder.
1	.	.	$28.00	$58.00
2	.	.	32.00	60.00
3	.	.	35.00	90.00
4	.	.	45.00	120.00

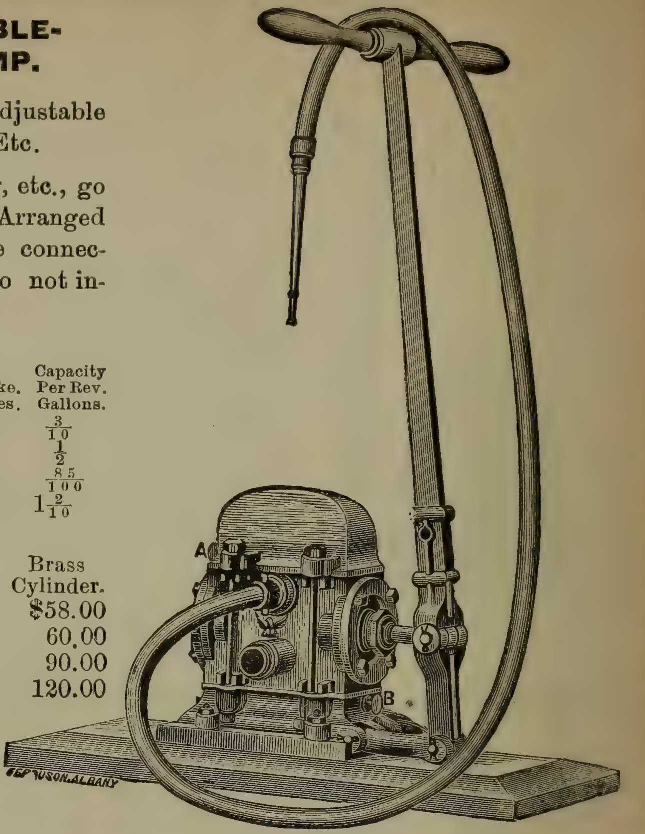


Fig. 1501.

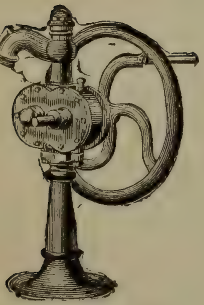


Fig. 1502.

DOUGLAS HAND ROTARY PUMP.

Fig. 1502 represents Hand Rotary Force Pump, which we are furnishing the trade. The construction of this Pump is of the geared pattern, so widely known by the public. We believe it to be a most serviceable article, and where a rotary pump is preferred, as may sometimes be the case, for use in breweries, gas works, and by oil dealers, etc., we can recommend this.

SIZES, CAPACITIES AND PRICES.

Size.	Suction.	Discharge.	Capacity per 100 Revolutions.	Iron.	Brass.
No. 1	1¼ inch	1 inch	13 gals.	$20.00	$42.00
“ 2	1¼ “	1 “	14 “	23.00	47.00
“ 3	1½ “	1¼ “	17 “	27.00	52.00
“ 4	1½ “	1½ “	27 “	35.00	65.00
“ 5	2 “	2 “	36 “	40.00	75.00

DOUGLAS PATENT IMPROVED YARD HYDRANT.

NON-FREEZING.

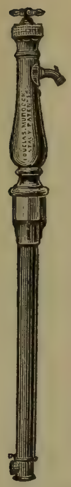


Fig. 1503.

The Fig. 1503 Yard Hydrant combines the patent movable water-way under Murdock's patent, and the pressure-cup packings of the Stacey patent, taken together with the Douglas check valve. closing with the pressure, so it can be repaired without digging up. This is the best and most complete hydrant in the market. It will not freeze in the coldest climate, as the water escapes freely when not in use, and the handle and screw that operates it does not come in contact with the water.

No stop-cock is required on the above, as it is furnished with our patent self-closing check to stop flow from street main when being repaired.

A short piece of lead pipe should be used in attaching iron pipe to all hydrants, as it makes a more flexible connection, and the action of the frost in heaving the hydrant will not as readily break the bottom.

PRICES, ETC. Fig. 1503.

To go in Ground.	Fig. 1503, for ¾-in. Pipe and Hose. Each.	Fig. 1503, for 1-in. Pipe Each.
1½ ft.	$8.00	$10.50
2 “	8.50	11.00
2½ “	9.00	11.50
3 “	9.50	12.00
3½ “	10.00	12.50
4 “	10.50	13.00
5 “	11.50	14.00
6 “	13.00	15.50
7 “	16.00	17.00
8 “	17.00	18.50

DOUGLAS PATENT SELF-CLOSING HYDRANT.

NON-FREEZING.

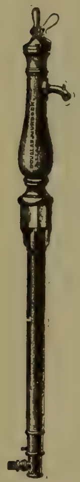


Fig. 1504.

This cut shows a new Self-Closing Compression Hydrant. It has the lever or handle, as the illustration shows, in the line with the column, and is not liable to be broken as in the common style, where the handle projects beyond the base line.

To open, pull the handle over in either direction; when through using, let go, and it immediately closes. and the waste opens, letting off the water to avoid freezing. If required to keep the water running, the lever can be fastened by a catch at the side.

It has all the advantages of the regular Fig. 1503 Hydrant, and is adapted to corporations where the Self-Closing Hydrant is required, to prevent the waste consequent upon carelessness in closing the ordinary hydrant.

PRICES, ETC. Fig. 1504.

To go in Ground .	3 ft.	3½ ft.	4 ft.	5 ft.	6 ft.
Each, ...	$11.00	11.50	12.00	13.00	14.00

DOUGLAS IMPROVED STREET WASHERS.

Patented December 17, 1886.

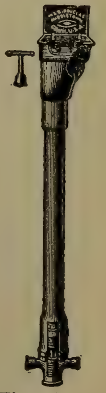


Fig. 1505.

Fig. 1505 can be placed in the service pipe without a T, as the inlet is directly on either side, and the passage of water can be continuous.

No stop-cocks are required, as they are furnished with patent self-closing check to stop flow from street main when being repaired.

When ordered in dozen lots, we will cast any desired address on the covers of these Street Washers.

PRICES. Fig. 1505.

To go in Ground, Feet, . .	1½	2	2½	3	3½
Price for ¾-in. Pipe and Hose, .	$6.00	6.50	7.00	7.50	8.00
Price for 1-in. Pipe and Hose, .	8.50	9.00	9.50	10.00	10.50
To go in Ground, Feet, . .	4	5	6	7	8
Price for ¾-in. Pipe and Hose, .	$8.50	9.50	11.00	14.00	15.00
Price for 1-in. Pipe and Hose, .	11.00	12.00	13.50	15.00	16.50

THE KENNEDY COMPRESSION FIRE HYDRANT.

WITH OR WITHOUT FROST CASE.

DIMENSIONS AND PRICE LIST.

	Diameter of Pipe Connection.	Diameter of Stand Pipe.	Valve Opening.	Number and Size of Nozzles.	Length from Pavement to Bottom of Connection, 5 feet.	Add or Deduct for each 6 ins. difference in length from 5 feet.	Each $2\frac{1}{2}$-inch Nozzle Additional.	Each Steamer Nozzle Additional.	Frost Case Additional	Add for Secondary Stop Valve.
O.	3 or 4 ins.	5 ins.	3 ins.	One $2\frac{1}{2}$-in.	$28.00	$1.00	$2.00	$3.50	$4.50	$5.75
R.	4 or 6 “	6 “	4 “	Two $2\frac{1}{2}$-in.	33.00	1.00	2.00	3.50	5.00	7.50
U.	4 or 6 “	6 “	4 “	One Steamer or two $2\frac{1}{2}$-in.	33.00	1.00	2.00	3.50	5.00	7.50
V.	4 or 6 “	7 “	5 “	One Steamer or two $2\frac{1}{2}$-in.	36.00	1.25	2.00	3.50	6.00	9.00
W.	4 or 6 “	7 “	5 “	One Steamer and one $2\frac{1}{2}$-in.	38.00	1.25	2.00	3.50	6.00	9.00
Y.	6 “	9 “	6 “	One Steamer and two $2\frac{1}{2}$-in.	51.35	1.75	2 00	3.50	9.00	11.00

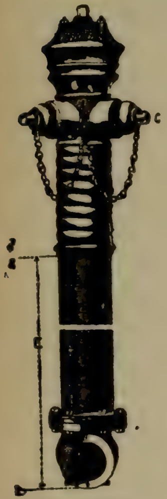


Fig. 1505½.

THE KENNEDY GATE FIRE HYDRANT.

WITH OR WITHOUT FROST CASE.

DIMENSIONS AND PRICE LIST.

	Diameter of Pipe Connection.	Diameter of Stand Pipe.	Valve Opening.	Number and Size of Nozzles.	Length from Pavement to Bottom of Connection 5 feet.	Add or Deduct for each 6 ins. difference in length from 5 feet.	Each $2\frac{1}{2}$-inch Nozzle Additional.	Each Steamer Nozzle Additional.	Frost Case Additional.
A.	3 or 4 ins.	5 ins.	3 ins.	One $2\frac{1}{2}$-in.	$28.00	$1.00	$2.00	$3.50	$4.50
J.	4 or 6 “	6 “	4 “	Two $2\frac{1}{2}$-in.	33.00	1.00	2.00	3.50	5.00
K.	4 or 6 “	6 “	4 “	One Steamer or two $2\frac{1}{2}$-in.	33.00	1.00	2.00	3.50	5.00
L.	4 or 6 “	7 “	5 “	One Steamer or two $2\frac{1}{2}$-in.	36.00	1.25	2.00	3.50	6 00
M.	4 or 6 “	7 “	5 “	One Steamer and one $2\frac{1}{2}$-in.	37.45	1.25	2.00	3.50	6.00
N.	6 or 8 “	9 “	6 “	One Steamer and two $2\frac{1}{2}$-in.	51.35	1.75	2.00	3.50	9.00

DOUGLAS POWER ROTARY FORCE PUMP ON FRAME.

With Tight and Loose Pulleys.

SIZES, PRICES.

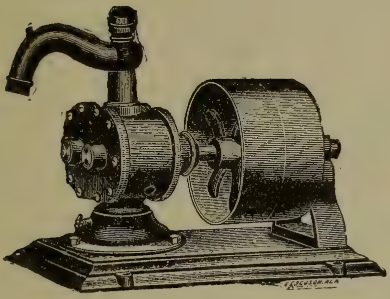


Fig. 1506.

Size.	Suction.	Discharge.	Capacity per Revolution.	Iron.	Bronze.
No 1	1¼ in.	1 in.	.13 gals.	$27.00	$49 00
" 2	1¼ "	1 "	.14 "	32.00	56 00
" 3	1½ "	1¼ "	.17 "	38.00	63.00
" 4	1½ "	1½	.27 "	48.00	78.00
" 5	2 "	2	.36 "	54.00	90.00

Fig. 1506 shows Rotary Pump arranged for power. It is constructed with gears internal, and is widely known to the public. We confidently recommend it as a superior article where this class of Pump is required.

Pulleys on Nos. 1, 2 and 3 are 8 inches diameter and 2½ inches face; on Nos. 4 and 5, 12 inches diameter and 3½ inches face. Balance-wheels for above Pumps, $1.00, $2.00 and $3.00, according to size.

DOUGLAS HORIZONTAL CENTRIFUGAL PUMP.

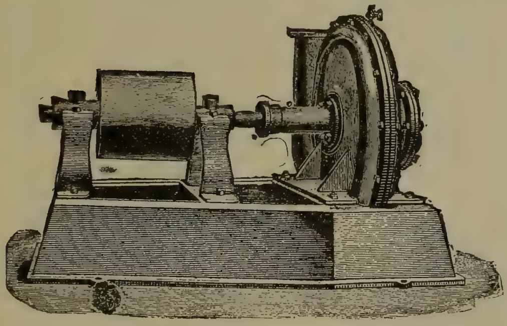


Fig. 1507.

Fig. 1507 shows an Improved Horizontal Centrifugal Pump for use in tanneries, paper mills, breweries, distilleries, etc. This Pump must be set so water will flow into it, unless a check-valve is placed at lower end of induction pipe, in which case it may be set twenty-eight feet above the water. Sent as shown in cut, unless specifically ordered with pulley on opposite end.

DIRECTIONS.

Bolt the frame to the floor; see that the shaft does not bind; run in direction of scroll. If the Pump is set above water, make the pipe and joints tight; fill Pump with water until suction pipe and Pump are full. Estimate the motion by the whole elevation from the bottom of suction to top of discharge pipe. See that stuffing box on bearing outside of Pump is packed.

PRICES, ETC.

Nos.	$1\frac{3}{4}$	2	3	4	6	8	10	12	15	18
Iron	$50.00	70.00	95.00	130.00	200.00	310.00	395.00	500.00	710.00	1,000.00
Brass	100.00	125.00	175.00	275.00	410.00	. .	. .	. .	. .	. .

For table showing number of revolutions per minute necessary to raise water to different heights, with different sizes of pumps, see page 436.

DOUGLAS PRIMING HORIZONTAL CENTRIFUGAL PUMP.

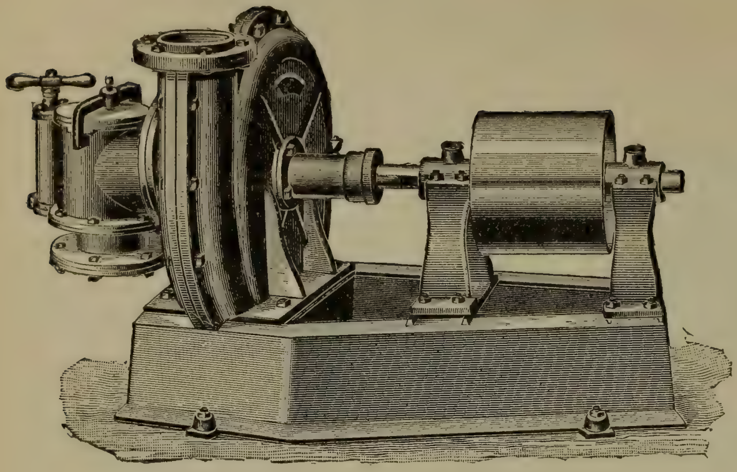


Fig. 1508.

Fig. 1508 shows Horizontal Centrifugal Pump with priming attachment for priming by hand. It is a very perfect article, and the attachment is very convenient where the Pump is placed a distance above the water. There is but one valve in the primer which can be instantly reached by removing cap plate.

DIRECTIONS.

Bolt the Pump to the floor; see that the shaft does not bind; run in direction of scroll. To put this Pump in operation—make tight joints in suction pipe, then work primer, open pet cock in top of scroll, and continue working until water flows out of pet cock and Pump is full, close pet cock and start Pump. Primer need not be used but once where the water is forced above Pump, as it holds its priming. Use discharge pipes full size of bore of Pump, and still larger size suction pipe. See that the stuffing box on bearing outside of Pump is packed.

SIZES AND PRICES.

Nos. . .	1¾	2	3	4	6	8	10	12	15	18
Iron . .	$60.00	85.00	110.00	155.00	240.00	375.00	470.00	600.00	850.00	1250.
Brass . .	120.00	150.00	210.00	330.00	495.00	. .	. .	. .	. .	. .

Table showing number of revolutions per minute necessary to raise water to different heights with the different sizes of Pumps.

No. of Pump.	Capacity per Minute. Gallons.	Size of Discharge Pipe. Inch.	Diam. of Pulley. Inch.	Revolutions Per Minute.									
				6 ft.	8 ft.	10 ft.	12 ft.	16 ft.	20 ft.	25 ft.	30 ft.	35 ft.	40 ft.
1¾	200	1¾	6	425	590	680	725	825	900	975	1050	1120	1170
2	300	2	7	400	450	525	575	650	720	780	852	908	960
3	650	3	7	350	400	425	450	500	550	650	775	850	910
4	1250	4	10	275	300	350	400	450	500	600	675	800	890
6	2600	6	12	200	220	240	300	360	420	490	540	580	610
8	4750	8	15	185	200	225	250	310	360	390	425	450	475
10	7500	10	18	166	188	220	245	285	320	360	386	414	436

"COLUMBIAN COVERLESS" RUBBER BELTING.

We make these belts endless when required, and charge for three feet extra.

For light service order the 3-ply.

The 5-ply belt is equal to single leather.

Belts six inches and under ten inches should be 7-ply. For large belts or those intended for heavy work, order the 9-ply and 11-ply.

Fig 1509.

Width. Inches.	3 Ply.	5 Ply.	7 Ply.	9 Ply.	11 Ply.
1	$0.08	. .	. .	. .	. .
$1\frac{1}{4}$	.10	. .	. .	. .	. .
$1\frac{1}{2}$	.13	. .	. .	. .	. .
2	.17	.19	.24	. .	. .
$2\frac{1}{2}$	.20	.25	.29	. .	. .
3	.25	.29	.31	. .	. .
$3\frac{1}{2}$	.29	.34	.41	. .	. .
4	.34	.38	.47	. .	. .
$4\frac{1}{2}$	.37	.44	.53	. .	. .
5	.40	.48	.58	. .	. .
6	.48	.58	.69	.86	. .
7	.57	.67	.81	1.01	. .
8	.66	.78	.94	1.17	1.40
9	.75	.89	1.06	1.31	1.58
10	.84	1.00	1.19	1.48	1.78
11	.93	1.11	1.31	1.64	1.97
12	1.01	1.20	1.45	1.80	2.19
13	1.11	1.31	1.58	1.97	2.37
14	1.20	1.42	1.71	2.14	2.57
15	1.29	1.53	1.85	2.30	2.77
16	$1.39	$1.67	$1.98	$2.47	$2.97
18	1.57	1.89	2.25	2.80	3.37
20	1.76	2.11	2.51	3.13	3.77
22	1.96	2.36	2.80	3.50	4.20
24	2.18	2.62	3.11	3.89	4.67
26	. .	2.89	3.42	4.28	5.13
28	. .	3 16	3.73	4.67	5.60
30	. .	. .	4.04	5.05	6.06
32	. .	. .	4.30	5.44	6.53
34	. .	. .	4.67	5.83	7.00
36	. .	. .	4.98	6.22	7.46
38	. .	. .	5.29	6.61	7.93
40	. .	. .	5.60	7.00	8.40
42	. .	. .	5.91	7.39	8.86
44	. .	. .	6.22	7.77	9 33
46	. .	. .	6.53	8.16	9.79
48	. .	. .	6.84	8.55	10.26
50	. .	. .	. .	8.94	10.73
52	. .	. .	. .	9.33	11.19

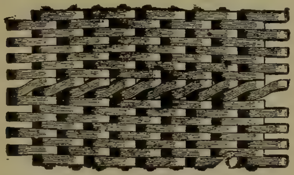


Fig. 1510

NET PRICE LIST OF
AMERICAN PATENT JOINT LEATHER LINK BELTING.
PER RUNNING FOOT.

April 1, 1898.

Width of Belt	Factory Sizes		Dynamo.	For Extra Heavy Work	
	Size $\frac{7}{16}$ in.	Size $\frac{9}{16}$ in.	Size $\frac{11}{16}$ in.	$\frac{7}{8}$ in. thick	1 in. thick
1 in.	0.20	$0.20	$0.25	$0.30	$0.35
$1\frac{1}{2}$ "	.30	.30	.38	.45	.52
2 "	.40	.40	.50	.60	.70
$2\frac{1}{2}$ "	.50	.50	.63	.75	.87
3 "	.60	.60	.75	.90	1.05
$3\frac{1}{2}$ "	.70	.70	.88	1.05	1.22
4 "	.80	.80	1.00	1.20	1.40
$4\frac{1}{2}$ "	Wider sizes should be made of thicker Links.	.90	1.13	1.35	1.57
5 "		1.00	1.25	1.50	1.75
$5\frac{1}{2}$ "		1.10	1.38	1.65	1.92
6 "		1.20	1.50	1.80	2.10
7 "		1.40	1.75	2.10	2.45
8 "		1.60	2.00	2.40	2.80
9 "		Wider sizes should be made of thicker Links.	2.25	2.70	3.15
10 "			2.50	3.00	3.50
11 "			2.75	3.30	3.85
12 "			3.00	3.60	4.20
13 "			3.25	3.90	4.55
14 "			3.50	4.20	4.90
15 "			3.75	4.50	5.25
16 "			4.00	4.80	5.60
18 "			4.50	5.40	6.30
20 "			5.00	6.00	7.00
22 "			5.50	6.60	7.70
24 "			6.00	7.20	8.40
26 "			6.50	7.80	9.10
30 "			7.50	9.00	10.50
36 "			9.00	10.80	12.60

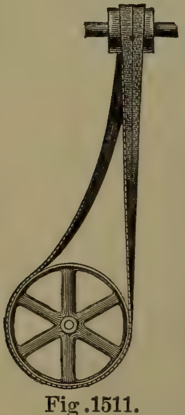


Fig. 1511.

This illustration shows in what a graceful, easy curve the Belt throws itself when run half-crossed or at right angles. The entire surface of the Belt hugs the face of the pulley, and therefore is able to transmit its full capacity of power, which no other flat belt can do, or stand the work in such a trying position. Can be made absolutely waterproof without extra charge. The Patent Joint or Hinge is not put in Belts narrower than 4 inches unless by special request and at special prices.

WATERPROOF LEATHER BELTING.

POSITIVELY NET LIST. SINGLE.

Width, Inches.	Price, per Foot.	Width, Inches.	Price per Foot.	Width, Inches.	Price, per Foot.	Width, Inches.	Price, per Foot.
1 inch.	$0.07	3 inch.	$0.24	5 inch.	$0.42	9 inch.	$0.77
1½ "	.11	3½ "	.29	6 "	.51	10 "	.86
2 "	.16	4 "	.33	7 "	.60	11 "	.95
2½ "	.20	4½ "	.38	8 "	.68	12 "	1.04

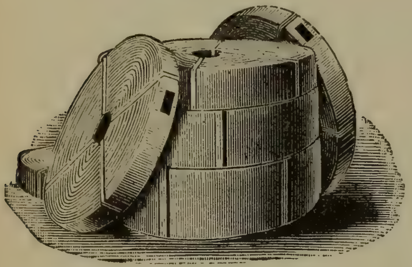


Fig. 1512.

PATENT HYDRAULIC STRETCHED

RUBBER BELTING,

In Three Grades,

"EXTRA PARA," "RELIABLE" and "STAPLE"

And ELEVATOR and MAIN BELTS.

All Widths and Plies up to 72 inches.

Width Ins.	2 Ply.	3 Ply.	4 Ply.	5 Ply.	6 Ply.	7 Ply.	8 Ply.
1	$0.07	$0.09	$0.13	..	..	..	..
1¼	.09	.11	.15	..	..	..	..
1½	.11	.13	.17	..	..	..	..
2	.15	.17	.21	..	..	..	..
2½	.18	.22	.26	..	..	..	..
3	.22	.26	.31	..	..	..	..
3½	.26	.30	.37	..	..	..	..
4	.30	.34	.42	..	..	..	..
4½	.33	.39	.47	..	..	..	..
5	.36	.43	.52	..	..	..	..
6	.43	.52	.62	.77	..	..	..
7	.51	.60	.73	.91	..	..	..
8	.59	.70	.84	1.05	1.26	..	..
9	.67	.80	.95	1.18	1.42	..	..
10	.75	.90	1.07	1.33	1.60	1.87	..
11	.83	1.00	1.18	1.47	1.77	2.06	..
12	.91	1.08	1.30	1.62	1.95	2.27	2.60
13	1.00	1.18	1.42	1.77	2.13	2.48	2.84
14	1.08	1.28	1.54	1.92	2.31	2.69	3.08
15	1.16	1.38	1.66	2.07	2.49	2.90	3.32
16	1.25	1.50	1.78	2 22	2.67	3.11	3.56
18	1.41	1.70	2.02	2.52	3.03	3.53	4.04

Width, Ins.	2 Ply.	3 Ply.	4 Ply.	5 Ply.	6 Ply.	7 Ply.	8 Ply.
20	$1.58	$1.90	$2.26	$2.82	$3.39	$3.95	$4.52
22	1.76	2.12	2.52	3.15	3.78	4.41	5 04
24	1.96	2.36	2.80	3.50	4.20	4.90	5.60
26	2.15	2.60	3.08	3.85	4.62	5 39	6.16
28	2.35	2.84	3.36	4.20	5.04	5.88	6.72
30	2.55	3.10	3.64	4.55	5.46	6.37	7.28
32	2.75	3.35	3.92	4.90	5.88	6.86	7.84
34	2.95	3.60	4.20	5.25	6.30	7.35	8 40
36	3.15	3.85	4.48	5.60	6.72	7.84	8.96
38	3.35	4.10	4.76	5.95	7.14	8.33	9.52
40	3.65	4.35	5.04	6.30	7.56	8.82	10.08
42	3.75	4.60	5.32	6.65	7.98	9.31	10.64
44	3.95	4.85	5.60	7.00	8.40	9.80	11.20
46	4.15	5.10	5.88	7.35	8.82	10.29	11.76
48	4.35	5.35	6.16	7.70	9.24	10.78	12.32
50	..	..	6.44	8.05	9.66	11.27	12.88
52	..	..	6.72	8.40	10.08	11.76	13.44
54	..	..	7.00	8.75	10.50	12 25	14.00
56	..	..	7.28	9.10	10.92	12.74	14.56
58	..	..	7.56	9.45	11.34	13.23	15.12
60	..	..	7.84	9.80	11.76	13.72	15.68

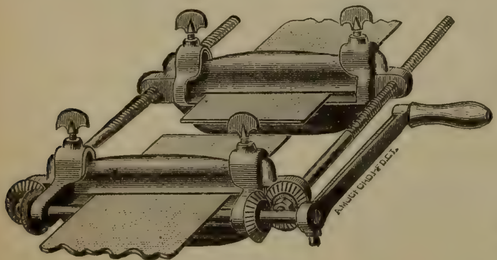


Fig. 1513.

PATENT BELT CLAMP.

For Drawing Belts Together for the Purpose of Lacing Them.

Size.		Each.	Size.		Each.
8 inch,	.	$14.00	24 inch,	.	$30.00
12 "	.	18.00	28 "	.	34.00
16 "	.	22.00	32 "	.	38.00
20 "	.	26.00	36 "	.	44.00

The above cut represents one of the most complete and useful articles for those using belts of a width requiring to be drawn together and laced while on the pulleys.

"ELECTRIC" LEATHER BELTING.

Positively Net List.

Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.
1 inch	$0.14	7 inch	$1.19	18 inch	$3.30	36 inch	$7.70
1½ "	.22	8 "	1.36	20 "	3.75	40 "	8.60
2 "	.31	9 "	1.54	22 "	4.20	44 "	9.50
2½ "	.40	10 "	1.72	23 "	4.40	48 "	10.40
3 "	.48	11 "	1.89	24 "	4.60	52 "	11.20
3½ "	.57	12 "	2.07	26 "	5.10	56 "	12.10
4 "	.66	13 "	2.24	28 "	5.50	60 "	13.00
4½ "	.75	14 "	2.42	30 "	6.10	64 "	13.90
5 "	.84	15 "	2.64	32 "	6.60	68 "	14.80
6 "	1.02	16 "	2.86	34 "	7.15	72 "	15.80

These Belts are all double-ply. When desired they are perforated for swift running without extra charge. When ordering state if Belts run at a high or low speed.

BEST OAK TANNED LEATHER BELTING.

SINGLE.

Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.	Width, Inches.	Price per Foot.
1 inch	$0.14	5 inch	$0.91	17 inch	$3.15	34 inch	$6.29
1¼ "	.19	5½ "	1.01	18 "	3.33	36 "	6.66
1½ "	.24	6 "	1.11	19 "	3.52	40 "	7.40
1¾ "	.29	6½ "	1.20	20 "	3.70	44 "	8.14
2 "	.34	7 "	1.30	21 "	3.89	48 "	8.88
2¼ "	.39	8 "	1.48	22 "	4.07	50 "	9.25
2½ "	.43	9 "	1.67	23 "	4.26	52 "	9.62
2¾ "	.48	10 "	1.85	24 "	4.44	56 "	10.36
3 "	.53	11 "	2.04	25 "	4.63	60 "	11.10
3¼ "	.58	12 "	2.22	26 "	4.81	64 "	11.84
3½ "	.63	13 "	2.41	27 "	5.00	68 "	12.58
3¾ "	.67	14 "	2.59	28 "	5.18	72 "	13.32
4 "	.72	15 "	2.78	30 "	5.55	. . "	. .
4½ "	.82	16 "	2.96	32 "	5.92	. . "	. .

DOUBLE BELTS TWICE THE PRICE OF SINGLE.

Intermediate widths at proportionate prices. Extra heavy Belts extra prices.

ROUND LEATHER BELTING.

Size, inches	⅛	3/16	¼	5/16	⅜	½	⅝	¾	⅞	1
Solid, per foot	$0.05	.07	.10	.14	.18	. .	. .	. .	. .	. .
Twisted, "	.06	.10	.14	.18	.22	.30	.36	.46	.60	.72

CUT BELT LACING.

BOTH TANNED AND RAW HIDE.

Size, inch	¼	5/16	⅜	7/16	½	⅝	¾	⅞
Price per 100 feet	$1.00	1.25	1.50	1.75	2.00	2.75	3.25	4.00

Put up in 100 feet bundles.

LACE LEATHER.

Tanned, per square foot	$
Raw hide, " "	

HARNESS LEATHER.

Light, about 18 lbs., per lb.	$
Medium, " 20 " "	
Heavy, " 22 " "	

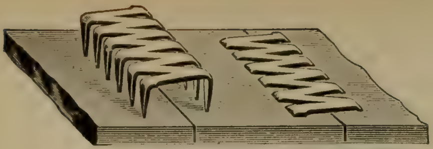


Fig. 1514.

BRISTOL'S PATENT STEEL BELT LACING.

Packed 100 inches in a box. Assorted lengths.

Following prices are for 100 inches.

FOR LEATHER BELTS.

No. 00.	For Split Leather and Extra Light Belts, from $\frac{1}{16}$ in. to $\frac{1}{8}$ in. thick . .	$1.00
“ 0.	“ “ “ Light Belts, from $\frac{1}{8}$ in. to $\frac{3}{16}$ in. thick	1.00
“ 1.	“ Ordinary Single Leather Belts, from $\frac{3}{16}$ in. to $\frac{1}{4}$ in. thick	1.50
“ 2.	“ Extra Heavy and Wide Single Leather Belts, from $\frac{1}{4}$ in. to $\frac{5}{16}$ in. thick .	2.00
“ 3.	“ Double Leather Belts, from $\frac{5}{16}$ in. to $\frac{3}{8}$ in. thick	2.50
“ 4.	“ Heavy Double Leather Belts, from $\frac{3}{8}$ in. to $\frac{7}{16}$ in. thick	3.00
“ 5.	“ Extra Heavy Double Leather Belts, from $\frac{7}{16}$ in. to $\frac{9}{16}$ in. thick . .	3.50

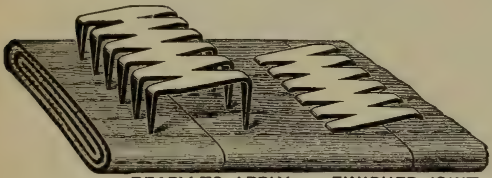


Fig. 1515.

FOR RUBBER, COTTON AND WOVEN BELTS.

Packed 100 inches in a box.

Assorted Lengths.

No. 100.	For Lightest Rubber and Cotton Belts, from $\frac{1}{16}$ in. to $\frac{1}{8}$ in. thick . .	$1.10
“ 10.	“ 2-Ply Rubber and Cotton Belts, from $\frac{1}{8}$ in. to $\frac{3}{16}$ in. thick . . .	1.10
“ 11.	“ 3-Ply “ “ “ “ $\frac{3}{16}$ in. to $\frac{1}{4}$ in. thick . . .	1.65
“ 12.	“ 4-Ply “ “ “ “ $\frac{1}{4}$ in. to $\frac{5}{16}$ in. thick . . .	2.20
“ 13.	“ 5-Ply “ “ “ “ $\frac{5}{16}$ in. to $\frac{3}{8}$ in. thick . . .	2.75
“ 14.	“ 6-Ply “ “ “ “ $\frac{3}{8}$ in. to $\frac{7}{16}$ in. thick . . .	3.30
“ 15.	“ 7 and 8-Ply Rubber and Cotton Belts, from $\frac{7}{16}$ in. to $\frac{9}{16}$ in. . . .	3.85

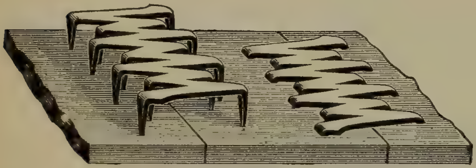


Fig. 1516.

FOR LEATHER, RUBBER, COTTON AND WOVEN BELTS.

Packed 100 inches in a box.

Assorted Lengths.

No. 111.	For general use on ordinary Single Leather and Rubber or Cotton Belts, from $\frac{3}{16}$ in. to $\frac{1}{4}$ in. thick, assorted or regular length, from one to three inches .	$1.65
No. 113.	For general use on Double Leather Belts and 5-Ply Rubber or Cotton Belts, from $\frac{5}{16}$ in. to $\frac{3}{8}$ in. thick, assorted lengths only	2.75
No. 115.	For general use on Extra Heavy Double Leather Belts and 7 or 8-Ply Rubber and Cotton Belts, assorted lengths only	3.85

IMPROVED POINTED BELT HOOKS.

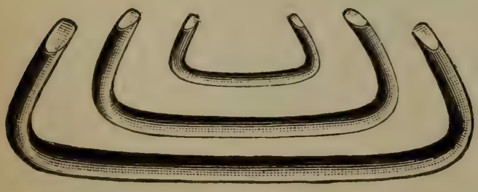


Fig. 1517.

No.	Per 1000.	No.	Per 1000.	No.	Per 1000.
16	$2.00	9	$4.00	2	$20.00
15	2.00	8	5.00	1	30.00
14	2.40	7	6.00	$2\frac{1}{2}$ in.	50.00
13	2.60	6	8.50	3 “	60.00
12	2.80	5	11.00	$3\frac{1}{2}$ “	70.00
11	3.00	4	14.00	4 “	80.00
10	3.50	3	16.00	..	..

BLAKES IMPROVED BELT STUDS.

No.	Per Box.
6	$0.60
5	.70
4	.80
3	.90
2	1.25
1	1.65
0	2.00
00	2.50

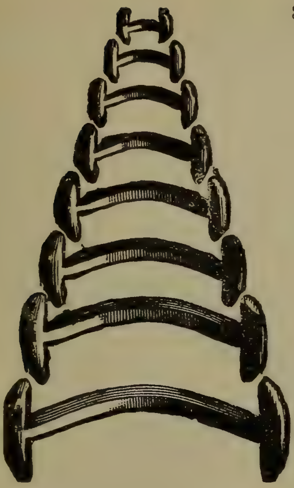
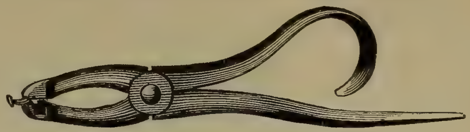


Fig. 1518.

AWL AND PLIERS COMBINED.



Patented May 3, 1887.
Fig. 1519.

The Awl at one end of this tool is to spread the slit and pliers at the other end are convenient for inserting the stud.

Awl and Pliers combined, each . .	$0.40

RUBBER AND LEATHER CUTTERS.

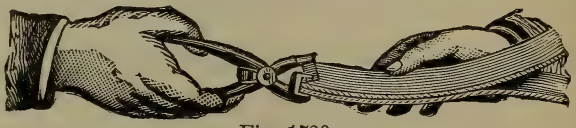


Fig. 1520.

Large Cutters for Rubber Belts, each .	$1.25
Small " Leather " " .	.90

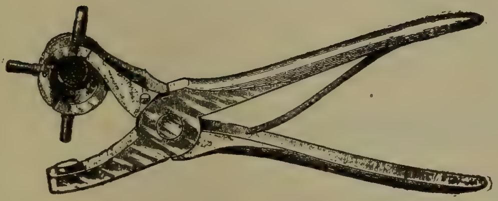


Fig. 1521.

REVOLVING PUNCH.

No. 18, 4 tubes, per doz. .	$18.00

½ dozen in a box.

No. 180, 4 tubes, large, per doz.	$30.00

Handles 12 inches long.

Size of Tubes, No. 10, 12, 14, 16.
One in a box.

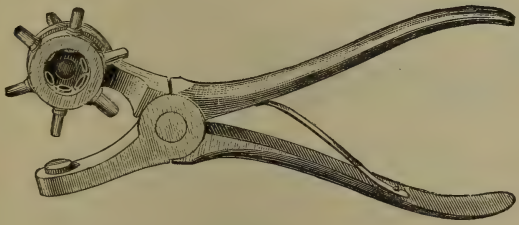


Fig. 1522.

REVOLVING PUNCH.

No. 19, 6 tubes, per doz. .	$21.00

½ dozen in a box.

EXTRA TUBES.

For No. 18, 180 and 19.

Per dozen, $2.00.

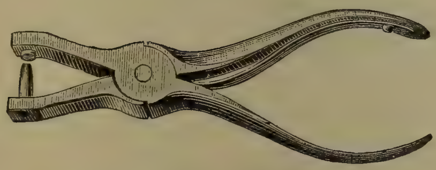


Fig. 1523.

SPRING PUNCHES.

No. 21.

Length, 5 inch, per dozen . .	$4.80
" 7 " " . .	5 50
" 9 " " . .	8.00

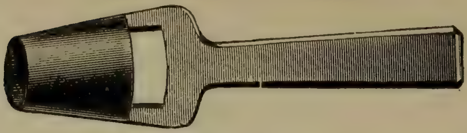
½ dozen in a box.

EXTRA TUBES FOR NO. 21 SPRING PUNCHES.

	5 inch,	7 inch,	9 inch,
Per dozen	$1.75	$1.90	$2.10

ROUND PUNCHES.

CAST STEEL, FORGED.



Eig. 1524.

Diameter, inches,	7/16	1/2	9/16	5/8	11/16	3/4	13/16	7/8	15/16
Price per dozen,	$9.50	10.00	10.50	11.00	11.50	12.00	12.50	13.00	13.50
Diameter, inches,	1	1 1/16	1 1/8	1 3/16	1 1/4	1 5/16	1 3/8	1 7/8	1 1/2
Price per dozen,	$14.00	16.00	18.00	20.00	22.00	24.00	26.00	29.00	32.00

Diameter, inches,	1 5/8	1 3/4	1 7/8	2	2 1/8	2 1/4	2 3/8	2 1/2	2 5/8	2 3/4	2 7/8	3
Price each,	$2.95	3.20	3.50	3.90	4.30	4.80	5.40	6.10	6.80	7.50	8.25	9.00

ROUND PUNCHES.

CAST STEEL, FORGED.

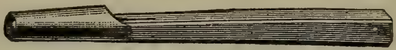


Fig. 1525.

No.	00	0	1 to 6	7 to 9	10 to 12	13 to 16
Per dozen,	$2.40	2.20	2.00	2.50	3.00	5.00

Sizes Per Twist Drill Gauge.

No.	00	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Gauge,	52	46	40	35	30	25	20	14	8	2	15/64	1/4	9/32	10/64	5/16	11/32	23/64	3/8

One dozen in a Box.

OVAL PUNCHES.

CAST STEEL, FORGED.

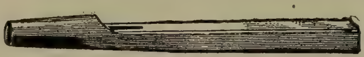


Fig. 1526.

Price, $1.00 per dozen advance over Round Punches, Fig. 1525.
One dozen in a Box.

BELT BORERS.

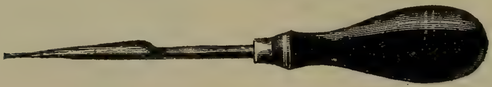


Fig. 1527.

Cast Steel, forged, one dozen in a box, per dozen, $2.50.

BELT BORERS.

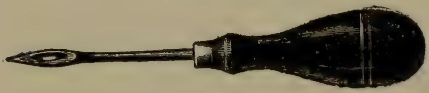


Fig. 1528.

Cast Steel, one dozen in a box, per dozen, $2.00.

BELT AWLS.

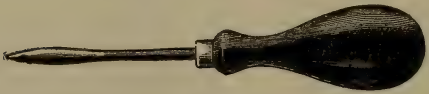


Fig. 1529.

Cast Steel, one dozen in a box, per dozen, $1.75.

TICKET PUNCHES.

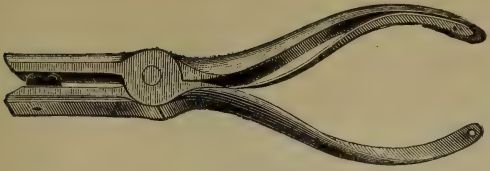


Fig. 1530.
Packed ½ dozen in a box.

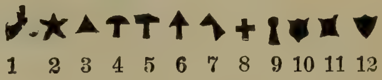
FANCY HOLES.

⅞ inch Capacity.

Nickel-plated, .	Per dozen,	$11.50
Polished, . . .	"	10.00

With round holes, $1.00 per dozen less.

DESIGNS.



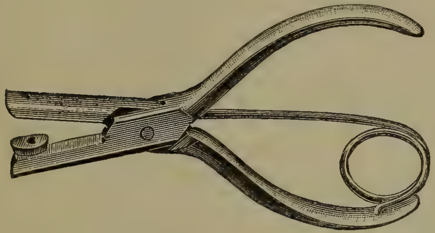


Fig. 1531.
Packed ½ dozen in a box.

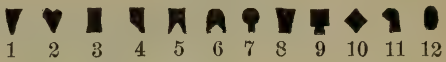
FANCY HOLES.

¾ inch Capacity.

Nickel-plated, .	Per dozen,	$9.50
Polished, . . .	"	8.00

With round holes, $1.00 per dozen less.

DESIGNS.



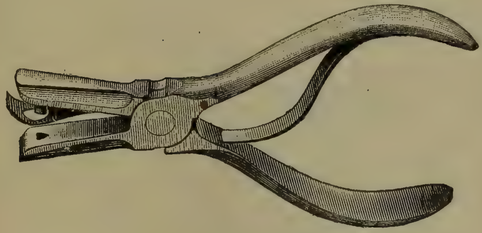


Fig. 1532.

FANCY HOLES.

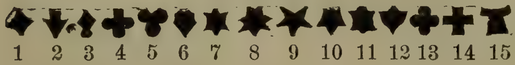
⅞ inch Capacity.

Nickel-plated, .	Per dozen,	$12.50
Polished, . . .	"	11.00

With round holes, $1.00 per dozen less.

Packed ½ dozen in a box.

DESIGNS.



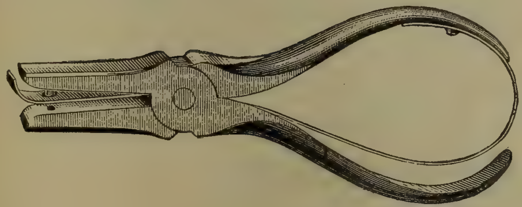


Fig. 1533.

FANCY HOLES.

1¼ inch Capacity.

Nickel-plated, .	Per dozen,	$16.50
Polished, . .	"	15.00

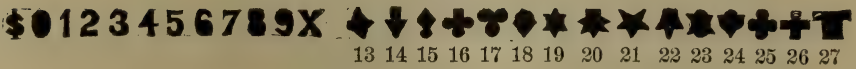
1 inch Capacity.

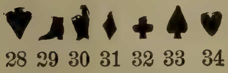
Nickel-plated, .	Per dozen,	$13.50
Polished, .	"	12.00

With round holes, $1.00 per doz. less.

Packed ½ dozen in a box.

DESIGNS.





TICKET PUNCHES.

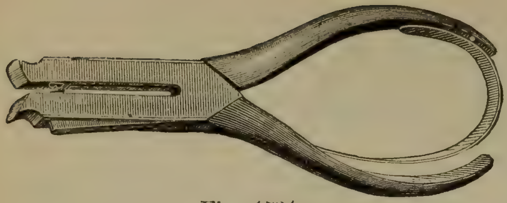


Fig. 1534.

FANCY HOLES.

1¼ inch Capacity.

Nickel-plated, per doz. . . .	$25.00
Polished, " " . . .	23.25

1 inch Capacity.

Nickel-plated, per doz. . . .	$20.00
Polished, " " . . .	18.25

With round holes, $1.50 per doz. less. Packed ½ doz. in a box.

We can also furnish Fig. 1534 Punches with a capacity of 1½ inch and 2 inches. Prices quoted on application, stating quantity desired.

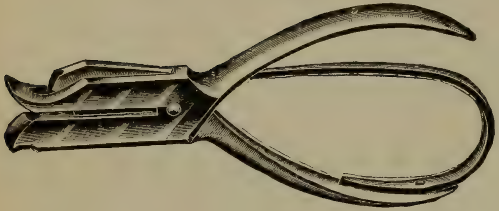


Fig. 1535.

FANCY HOLES.

1¼ inch Capacity.

Nickel-plated, per doz. . . .	$26.00
Polished, " " . . .	24.25

1 inch Capacity.

Nickel-plated, per doz. . . .	$21.00
Polished, " " . . .	19.25

With round holes, $1.50 per doz. less. Packed ½ doz. in a box.

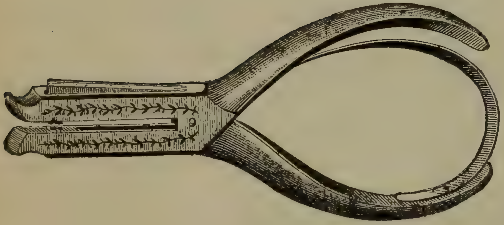


Fig. 1536.

FANCY HOLES.

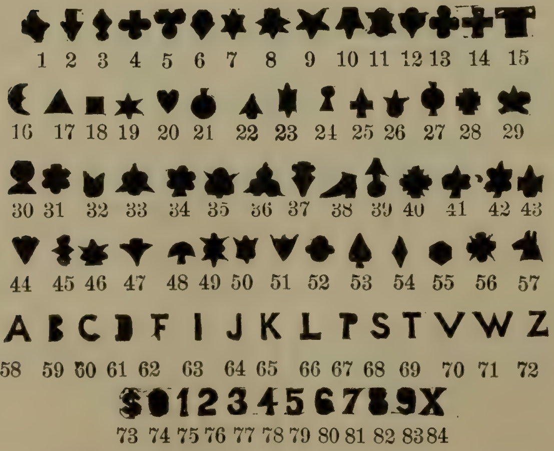
1 inch Capacity.

Nickel-plated, per doz. . . .	$26.00
Polished, " " . . .	24.00

With round holes, $1.50 per doz. less. Packed ½ doz. in a box.

This Punch is also furnished with Reservoir that opens automatically when Punchings are well packed. Price extra Nickel-plated, $2.00 per doz.

DESIGNS.



Any design not represented here made to order at reasonable price.

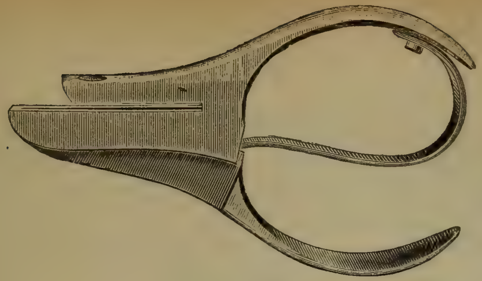


Fig. 1537.

TICKET PUNCHES.

FANCY HOLES.

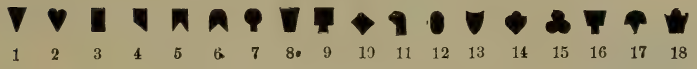
1 inch Capacity.

Nickel-plated, .	Per dozen,	$16.50
Polished, . .	"	15.00

With round holes, $1.00 per dozen less.

Packed ½ dozen in a box.

DESIGNS.



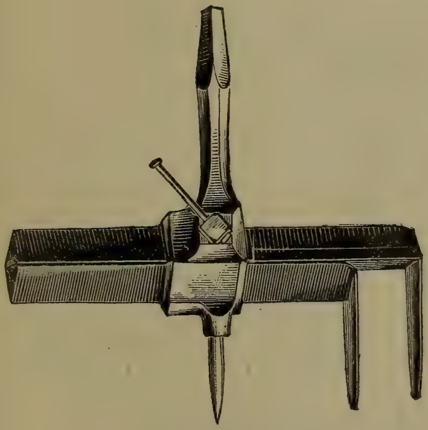


Fig. 1538.

WASHER CUTTERS.

The cutters of this tool are made of the best steel, and fastened with *one* screw only, which holds them better in the required place than any other washer cutter with square or flat cutters and more screws. This tool can in a moment be changed into a so-called *double* cutter.

No. 31.	Large, .	Per dozen,	$14.00
" 31.	Usual, .	"	11.00

No. 31. Large. Will cut washers to 8 inch diameter.

" 31. Usual. Will cut washers to 6 inch diameter.

½ dozen in box.

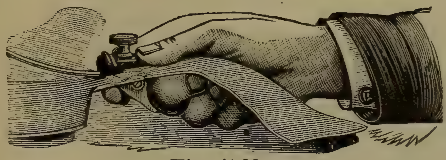


Fig. 1539.

LACE CUTTER.

It is made to cut any width from 3-16 to ¾ inch by an adjustable nickel-plated gauge and thumb screw.

Per dozen, ... $6.00

MORAN'S IMPROVED STEEL BELT COUPLINGS.

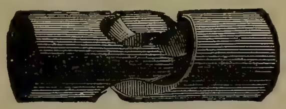


Fig. 1540.

Size, inches,	$\frac{1}{8}$	$\frac{5}{32}$	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{7}{16}$
Per dozen,	$3.00	3.00	2.50	2.50	2.00	2.50	3.00	3.00	3.50
Size, inches,	$\frac{1}{2}$	$\frac{9}{16}$	$\frac{5}{8}$	$\frac{11}{16}$	$\frac{3}{4}$	$\frac{7}{8}$	1	$1\frac{1}{8}$	$1\frac{1}{4}$
Per dozen,	$4.00	5.00	6.00	7.50	9.00	13.00	18.00	22.00	26.00

RIVET SETS.

(Cast-steel, Forged.)

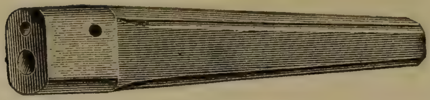


Fig. 1541.

No.	00	0	1	2	3	4	5	6	7	8
For Belt Rivets, No.	1	2	3	4 & 5	6 & 7	8	9	10 & 12	13	14
Per dozen	$9.00	8.50	8.00	7.50	7.00	6.50	6.00	5.50	5.00	4 50

SINGLE SPEED INDICATOR.

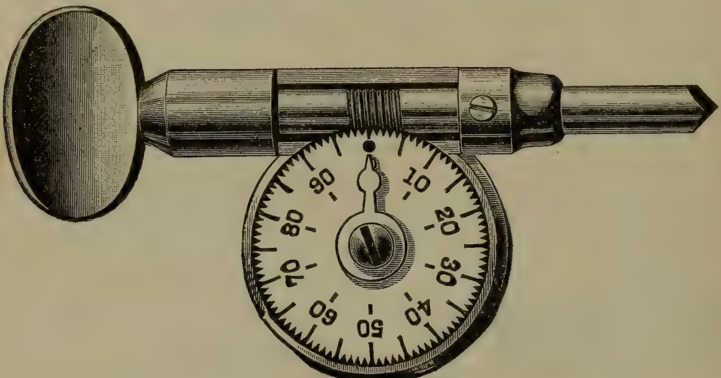


Fig. 1542.

Single Speed Indicator, price, each $0.75

WEISS DOUBLE SPEED ALARM INDICATOR.

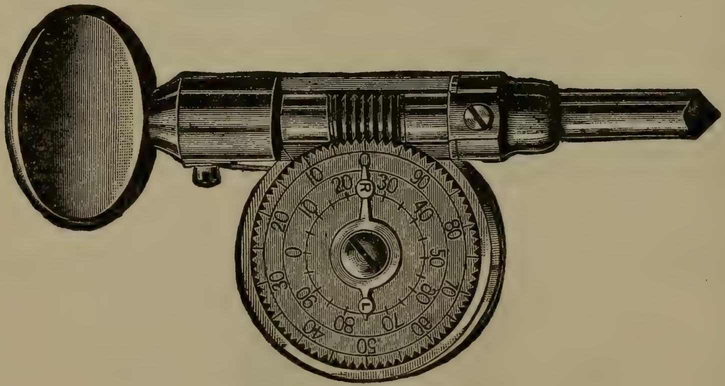


Fig. 1543.

Fig. 1543 shows the exact size of the Indicator and front view. The bell rings when either hand is at its zero and afterwards at every hundred revolutions of the spindle. A shaft turning to the left is registered by the shorter hand, stamped L and the inner dial. A shaft turning to the right by the longer hand marked R and the outer dial. It is always in the proper position to be applied to the shaft and requires no turning to zero. Price, each, $1.50.

SEAL PRESS.

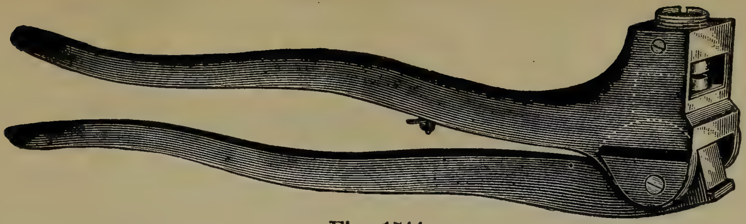


Fig. 1544.

This Press we furnish with Large Dies to press Hemp or Metallic Cording Seals; also with Small Dies to press any size of Lead Seals and Wires in use.

Price, including the Engravings on Dies, $4.00 Each.

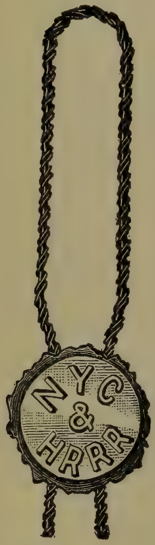


Fig. 1545.

Cast Inlaid Wire Seals.

Per 1000, $2.50.

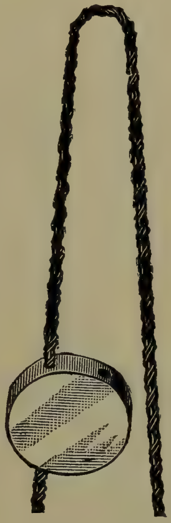


Fig. 1546.

Cut showing Cast Inlaid Wire Seal before being Pressed.

CORDING LEAD SEAL.

Used by the United States Government for sealing packages in bond.

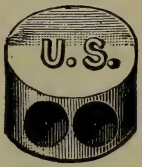


Fig. 1547.

No. 1,
$3.00 per 1000.

No. 2,
$4.00 per 1000.

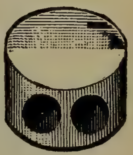


Fig. 1548.

WIRE LEAD SEALS.

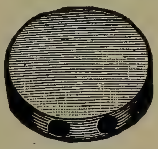


Fig. 1549.
¾ Size.

¾ inch Size,
$2.75 per 1000.

⅝ inch Size,
$2.25 per 1000.

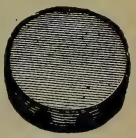


Fig. 1550.
⅝ Size.

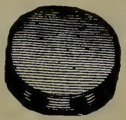


Fig. 1551.
½ Size.

½ inch Size,
$2.00 per 1000.

⅜ inch Size,
$1.50 per 1000.

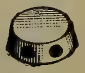


Fig. 1552.
⅜ Size.

PRICES STRAND TWISTED WIRES.

Single Flat Wire, . .	Per lb., $0.15	4-Ply Tinned Wire, . .	Per lb., $0.25
2-Ply Iron " . .	" .15	5 " " " . .	" .22
3 " " " . .	" .15	6 " " " . .	" .20
2 " " "	On Spools, $1.75 per 1000 ft.	6 " " "	On Spools, $2.50 per 1000 ft.

PRICES LAID WIRE CORDS.

6-Ply Tinned, Braided, .	Per lb., $0.25	3-Ply Imp'd Iron Laid, .	Per lb., $0.25
4 " " " .	" .30	2 " " " " .	" .30

6-Ply Tin Braided, on Spools, $3.00 per 1000 feet.

PRICE SEALS COMPLETE WITH WIRES, PER 1000.

No. 1,	⅝ Inch Seal,	with 6-Ply Tinned Wire.	7 Inches, ...	$
" 1,	⅝ " "	" 6 " " "	10 "	
" 3,	½ " "	" 6 " " "	7 "	
" 3,	½ " "	" 6 " " "	10 "	
" 1,	⅝ " "	" 3 " Iron Annealed Wire.	7 Inches, ...	
" 1,	⅝ " "	" 3 " " " "	10 "	
" 3,	½ " "	" 3 " " " "	7 "	
" 3,	½ " "	" 3 " " " "	10 "	

These Seals cannot be stripped.

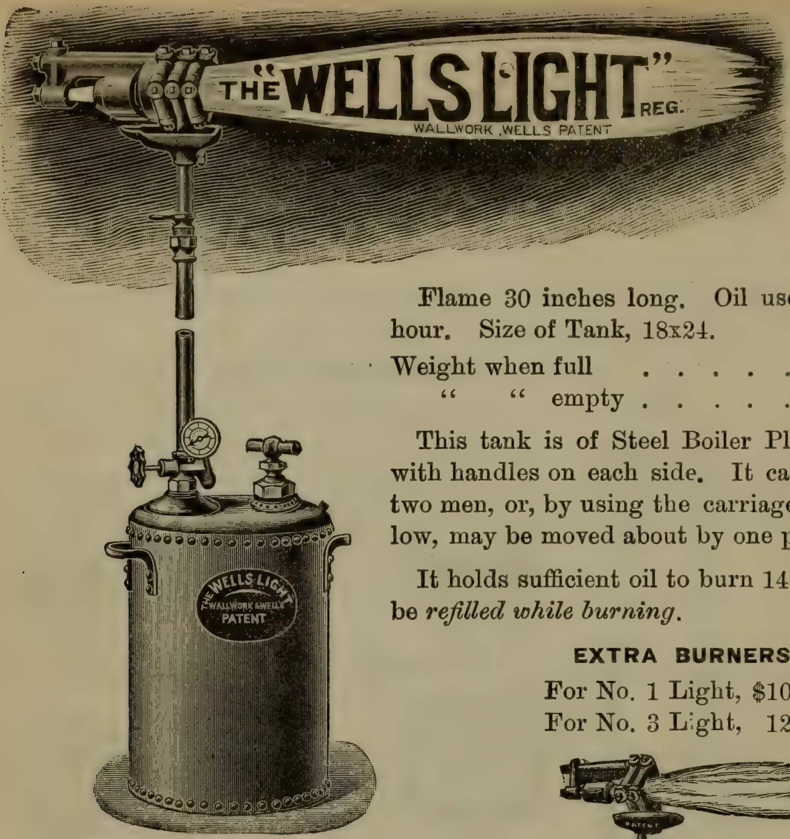


Fig. 1553.

No. 3.
2,000
Candle Power.
Price
Complete,
$100.00

Flame 30 inches long. Oil used, one gal. per hour. Size of Tank, 18x24.

Weight when full . . . . 245 lbs.
" " empty . . . . 110 "

This tank is of Steel Boiler Plate (galvanized) with handles on each side. It can be carried by two men, or, by using the carriage illustrated below, may be moved about by one person.

It holds sufficient oil to burn 14 hours, but may be *refilled while burning.*

EXTRA BURNERS.

For No. 1 Light, $10.00
For No. 3 Light, 12.00

No. 1.
800 Candle Power.

Flame 15 inches long. Oil used, ½ gal. per hour. Size of Tank, 14x16.

Weight when full . . . . 90 lbs.
" " empty . . . . . . 45 "

Price Complete, $75.00.

It holds sufficient oil to burn 8 hours but can be *refilled while burning.*

Fig. 1554 shows burner of No. 1 Light. The Carriage shown is made to pick up any No. 3 Lamp.

Price of Carriage, $18.00.

No. 1 Burners to work with No. 3 Lights are very useful, as a light of 800 C. P. is often sufficient in clearing up foundries, and in machine shops, and enables users to have either 800 or 2000 C. P light as desired with a No. 3 Light.

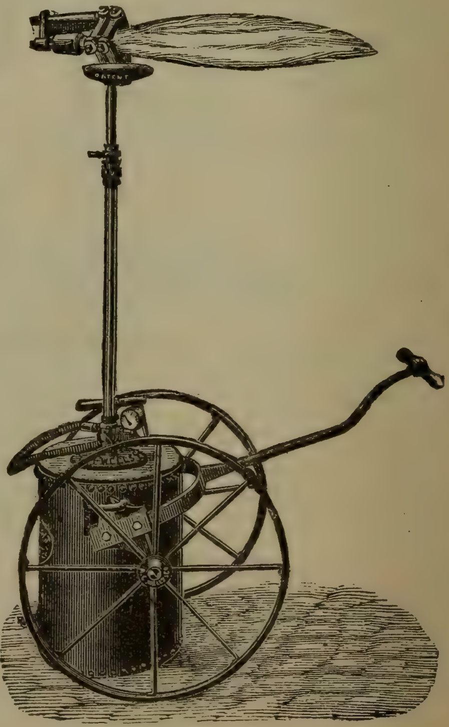


Fig. 1554.

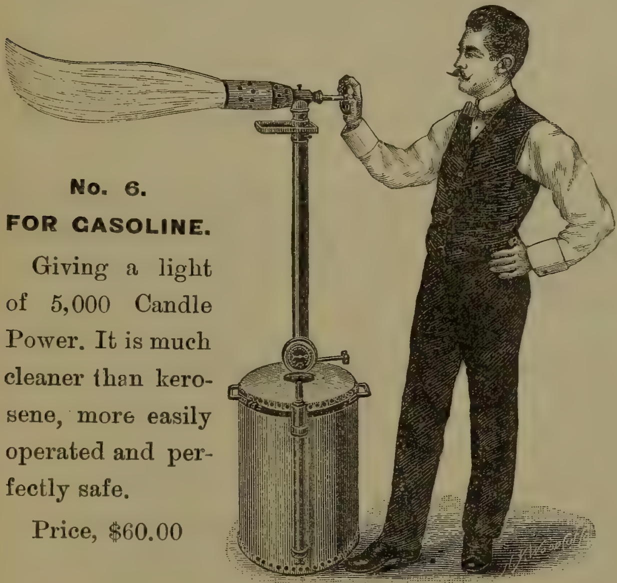
AUTOMATIC ILLUMINATING TORCHES.

No. 7.

FOR KEROSENE.

Giving a light of 5,000 Candle Power. In use by Railroads, Bridge, Tunnel, and all construction work, as well as for Mining and numerous other purposes.

Price, $80.00



No. 6.

FOR GASOLINE.

Giving a light of 5,000 Candle Power. It is much cleaner than kerosene, more easily operated and perfectly safe.

Price, $60.00

Fig. 1555.

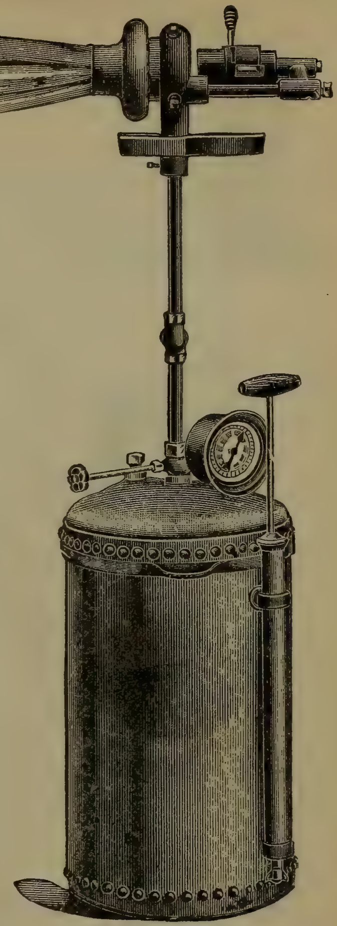


Fig. 1556.

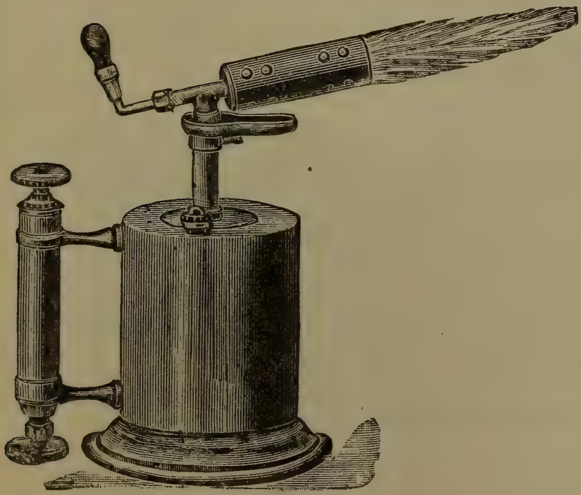


Fig. 1557.

SMITH'S BLOW TORCH.

Best and Cheapest in the Market.

AUTOMATIC.

Price each, $5.00

For Painters, Plumbers, etc., and for any purpose where a hot, Smokeless Flame is required.

BLASTING MACHINES.

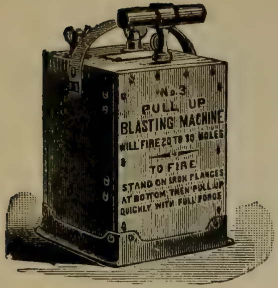


Fig. 1558.

"PULL UP" BLASTING MACHINE.

Made in Three Sizes.

No. 3 will fire 20 to 30 holes, ...	Price, $25.00
No. 4 will fire 40 to 50 holes, ...	" 50.00
No. 5 will fire 75 to 100 holes, ...	" 75.00

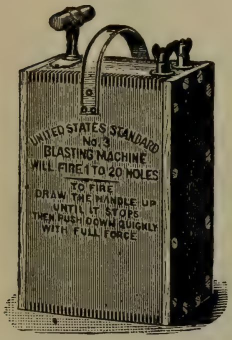


Fig. 1559.

UNITED STATES STANDARD BLASTING MACHINE.

Made in Two Sizes.

No. 3 will fire 1 to 20 holes, ...	Price, $25.00
No. 4 will fire 40 to 50 holes, ...	" 50.00

The above machines are the strongest and most powerful ever made for Electric Blasting. They are especially adapted for submarine blasting, large railroad quarrying and mining works.

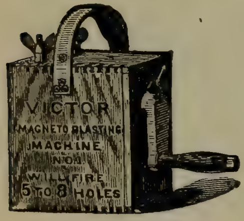


Fig. 1560.

VICTOR BLASTING MACHINE.

One Size Only.

No. 1 will fire 5 to 8 holes, ...	Price, $15.00

Weighs only 15 pounds; adapted for prospecting, stump blasting, well sinking, etc.

PRICE LIST.

Victor Leading Wire Reel	$4.00
Connecting Wire Holder	2.00
Battery Testing Lamp, with Stand Complete	3.50
" " " without Stand	1.75
Connecting Wire (on 2 lb. Spools)	40c. per lb.
Leading Wire (in large coils)	40c. per lb.
Leading Wire (measured to exact length ordered)	1c. per ft.
Insulating Tape (half lb. packages)	$1.50 per lb.

TROISDORF GERMAN BLASTING CAPS.

Triple Strength.	Quadruple Strength.	Quintuple Strength.
Per 1000	Per 1000	Per 1000
$5.50.	$6.00	$7.00.

Special Price in case lots of 25,000 each.

TAPE FUSE.

Hemp.	Cotton.	Single Tape.	Double Tape.
Per 1000 feet.	Per 1000 feet.	Per 1000 feet.	Per 1000 feet.
$2.80	$3.10	$4.15	$5.15

VICTOR ELECTRIC PLATINUM FUSES.

IMPROVED WATERPROOF INSULATION.

PATENTED DECEMBER 11, 1888.

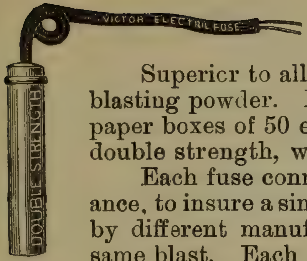


Fig. 1561.

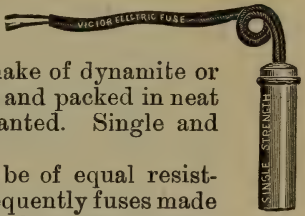


Fig. 1562.

Superior to all others for exploding any make of dynamite or blasting powder. Each fuse folded separately and packed in neat paper boxes of 50 each. All tested and warranted. Single and double strength, with any length of wires.

Each fuse connected for the blast should be of equal resistance, to insure a simultaneous explosion; consequently fuses made by different manufacturers should not be used together in the same blast. Each Victor Fuse is warranted equal in resistance. This important advantage is not claimed by other manufacturers.

The Fuses are packed by folding each separately and putting them up in strong paper boxes of 50 each, which is a great protection against dampness or change of climate, as well as a convenience in handling.

	SINGLE STRENGTH. Ordinary Quality. Equal to Quintuple Force. Per 100.	DOUBLE STRENGTH. Extra Quality. Equal to Double Quintuple Force. Per 100.
4 feet wires	$3.00	$3.75
6 "	3.54	4.29
8 "	4.08	4.83
10 "	4.62	5.37
12 "	5.16	5.91
14 "	5.70	6.45
16 "	6.24	6.99
18 "	6.78	7.53
20 "	7.32	8.07
22 "	8 32	9.07
24 "	9.32	10.07
26 "	10.32	11.07
28 "	11.32	12.07
30 "	12.32	13.07

RUBBER TUBING.

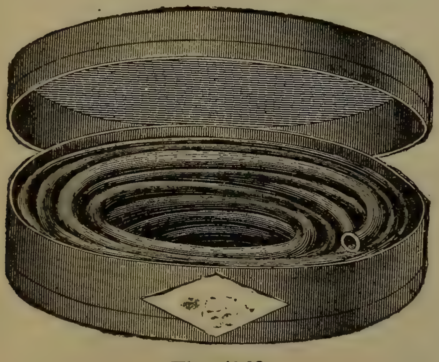


Fig. 1563.

PLAIN OR RIBBED.

Int. Diam.	Per ft.	Int. Diam.	Per ft.
$\frac{1}{8}$ inch	$0.08	$\frac{1}{2}$ inch	$0.25
$\frac{3}{16}$ "	.12	$\frac{5}{8}$ "	.30
$\frac{1}{4}$ "	.16	$\frac{3}{4}$ "	.35
$\frac{5}{16}$ "	.18	1 "	.45
$\frac{3}{8}$ "	.20		

Made in any thickness of wall. We carry in stock three grades—light, medium and heavy.

CLOTH INSERTION.—White or Red.

Int. Diam.	Per ft	Int. Diam.	Per ft.
$\frac{1}{8}$ inch	$0.10	$\frac{1}{2}$ inch	$0.28
$\frac{3}{16}$ "	.14	$\frac{5}{8}$ "	.33
$\frac{1}{4}$ "	.18	$\frac{3}{4}$ "	.38
$\frac{5}{16}$ "	.20	1 "	.50
$\frac{3}{8}$ "	.23		

"SCIOTO" RAILROAD OR CANAL BARROWS.

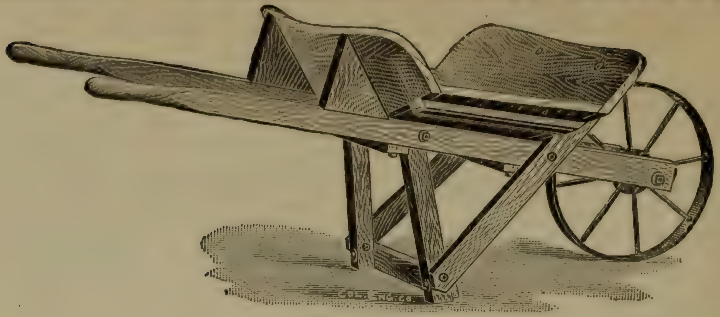


Fig. 1564.

With No. 13x Lewis Steel Spoke Wheel. Painted Black.

Diameter of wheel, 16½ inches; tire, 1⅜x⅜ inches; spokes, ⅜ inch round; ½ inch axle bolt.

Knocks down completely for shipping and is easily set up.

Weight per dozen, 594 pounds.

Price, per dozen, ... $

FIG. 1565.

Same as above, except furnished with Jacobs' No. 2 Wood Wheel. Unpainted.

Diameter of wheel, 17 inches; spokes, ⅞x1 inch; tire, $1\frac{1}{8}$x$\frac{3}{16}$ inches; ½ inch axle bolts.

Weight per dozen, 576 pounds.

Price, per dozen, ... $

THE "BOSS" BOLTED R. R. OR CANAL BARROW.

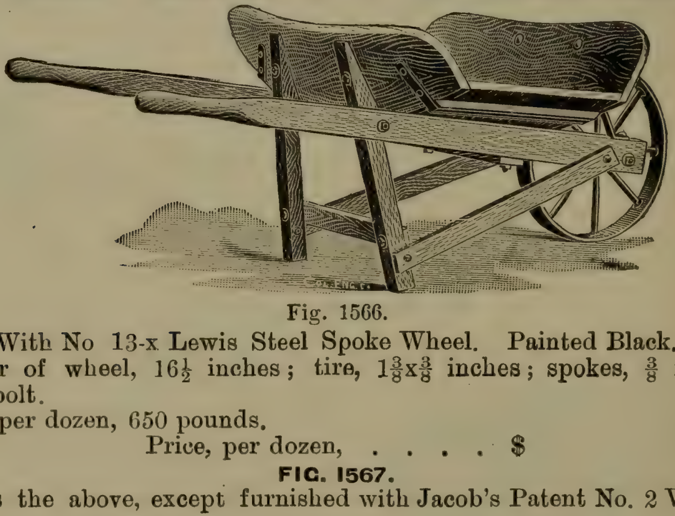


Fig. 1566.

With No 13-x Lewis Steel Spoke Wheel. Painted Black.

Diameter of wheel, 16½ inches; tire, 1⅜x⅜ inches; spokes, ⅜ inch round; ½ inch axle bolt.

Weight per dozen, 650 pounds.

Price, per dozen, ... $

FIG. 1567.

Same as the above, except furnished with Jacob's Patent No. 2 Wood Wheel. Unpainted.

Diameter of wheel 17 inches; spokes, ⅞x1 inch; ½ inch axle bolt. Painted

Weight per dozen, 600 pounds.

Price per dozen, ... $

SAWDUST, TANBARK OR STABLE BARROW.

Not Illustrated.

For Mills, Tanneries, Stockmen, and Livery Stables. Double Frame Removable sides. Wood wheel, 21 inches diameter.

Weight, 80 pounds. Capacity, 10 cubic feet. Painted green and varnished.

Price, per dozen, ... $

STEEL TRAY WHEELBARROWS.

SOLID STEEL TRAYS AND STEEL-SPOKE WHEELS.

For Mills, Furnaces, Farms and Railroads.

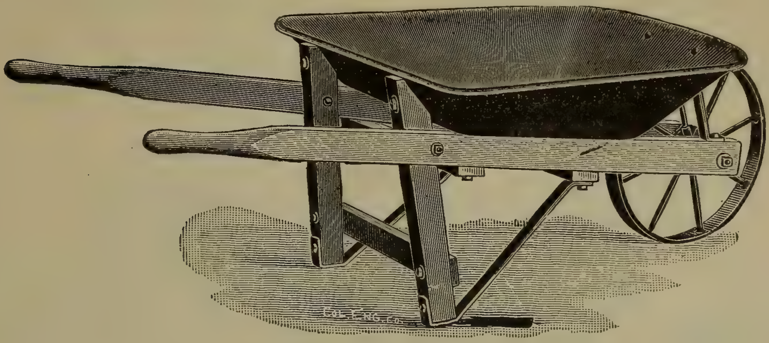


Fig. 1568.

TABLE OF DIMENSIONS, CAPACITY AND WEIGHT.

No.	Length on Top.	Width on Top.	Depth at Wheel.	Depth at Handle.	Greatest Length.	Greatest Height.	Capacity.	Weight.	Price.
Fig. 1569	32 in.	29 in.	7 in.	5 in.	65 in.	19 in.	3 cubic ft.	57½ lbs.	$
Fig. 1570	35½ "	28½ "	8½ "	6 "	65 "	20½ "	4 " "	59 "	
Fig. 1571	41½ "	33 "	11½ "	8 "	65 "	24 "	6 " "	66 "	

No. 13-X Lewis Patent Round Spoke Steel Wheel, 16½ inches diameter; tire 1⅜ x ⅜ inches. Tray and wheel painted black; frame, brown. All Trays No. 15 Steel.

THE PAN-AMERICAN STEEL TRAY BARROW.

SPECIALLY DESIGNED FOR THE EXPORT TRADE.

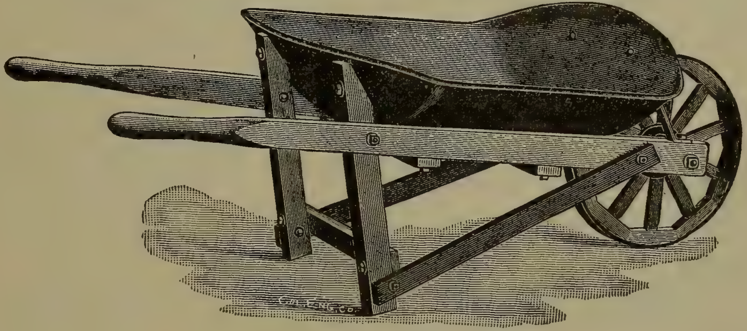


Fig. 1572.

With Jacobs' Patent No. 2 Wood Wheel.

The Tray of No. 14 Best Steel Pressed from a single sheet, without joint, seam or rivet. Size of Tray, 32 inches long; 33 inches wide; 11 inches deep at wheel end; 7½ inches deep at handle end. Wood wheels, 17 inches diameter; tire, 1⅛ x $\frac{3}{16}$ inches.

Price, . . . $

FIG. 1573.

Same as above, except furnished with Lewis Patent Steel Wheel, 16 inches diameter; tire, 1⅜ x ⅜ inches; Steel Spokes, ⅜ inch round.

Price, . . . $

STEEL BARROWS.

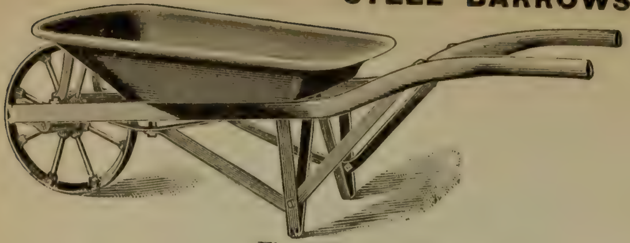


Fig. 1574.

FOUNDRY BARROWS.

No.		Tray.	Handles.		Price.
1.	3 cubic feet.	No. 13	No. 10	Weight, 85	$14.00
2.	3 "	" 12	" 10	" 100	15.00
3.	4 "	" 12	" 10	" 110	16.50

Wheels, 16 in. diameter. Suspension Braces. All parts extra heavy.

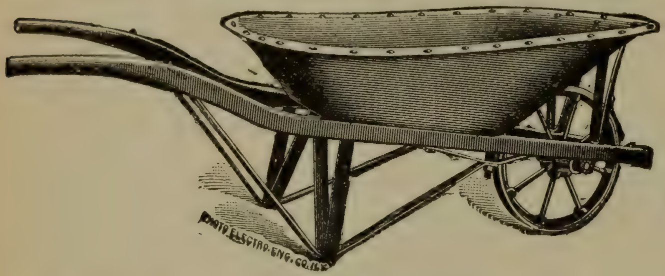


PHOTO-ELECTRO-ENG. CO. N.Y.

Fig. 1575.

SMELTING FURNACE BARROW.

No. I.

Capacity 325 lbs.

Tray,	Handles,	Weight,
No. 12.	No. 10.	130 lbs.

Price, $25.00

Wheels 16 in. diam. All parts extra heavy. Suspension Braces.

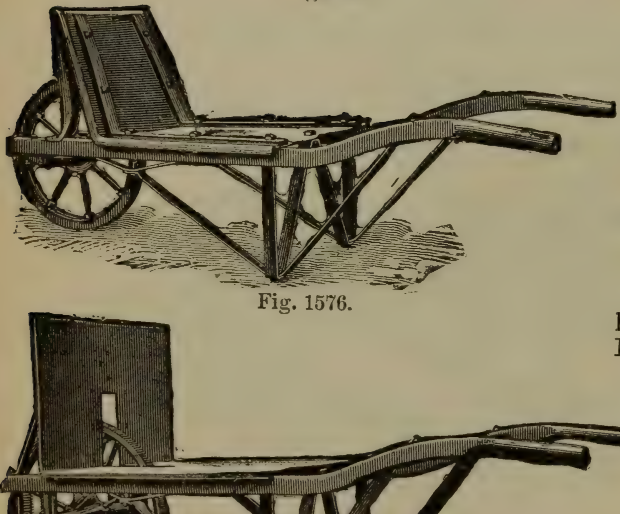


Fig. 1576.

PIG METAL AND INGOT BARROW.

C No. I.

Bed,	Handles,	Weight,
No. 12.	No. 10.	120 lbs.

Price, $18.00

Wheels 16 in. diam. Extra heavy Bed, Front and Front Braces of one Plate.

Suspension Brace.

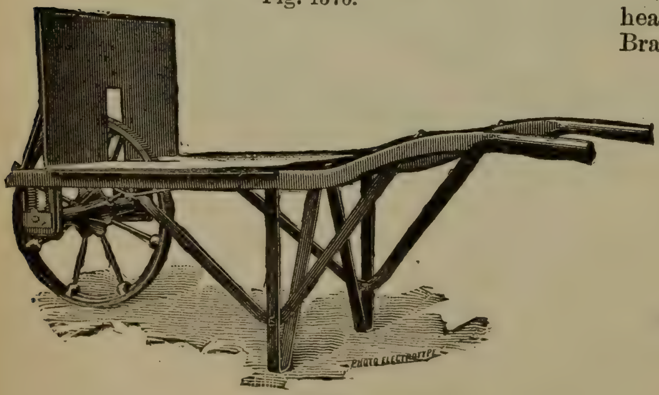


Fig. 1577.

BRICK BARROWS.

Suspension Braces, largely used, and has no superior

		Bed.	Handles.	Wheels.	Weight.	Price.
No. 1.	Solid Bed, Rigid Bearings.	No. 14	No. 10	16 in. diameter	95 pounds.	$14.00
" 2.	Open " " "	" 14	" 10	20 in. "	115 "	17.00
" 3.	" " Spring "	" 14	" 10	20 in. "	135 "	20.00

STEEL BARROWS.

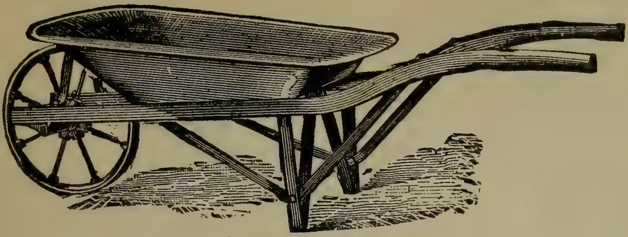


Fig. 1578.

MINING BARROW.

No. D, Export Barrow. Capacity, 3 cubic feet. Weight, 60 pounds. Tray, No. 16 Steel. Size of Tray, 33½ inches long, 29 inches wide, 6¾ inches deep.

Price, $10.00.

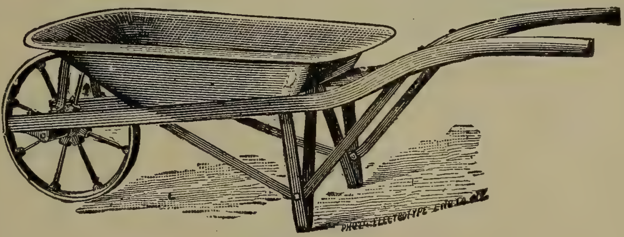


Fig. 1579.

MINING BARROWS.

No.	Capacity.	Tray.	Handles.	Weight.	Price.
A1.	3 cubic feet.	No. 15	No. 12	68 pounds.	$11.50
A2.	3 “	“ 14	“ 12	74 “	12.00
A3.	3 “	“ 13	“ 12	80 “	12.50
A4.	3 “	“ 12	“ 10	86 “	14.00
A5.	4 “	“ 12	“ 10	92 “	15.00
A6.	4 “	“ 10	“ 10	130 “	22.00

Wheels, 16 inches diameter.

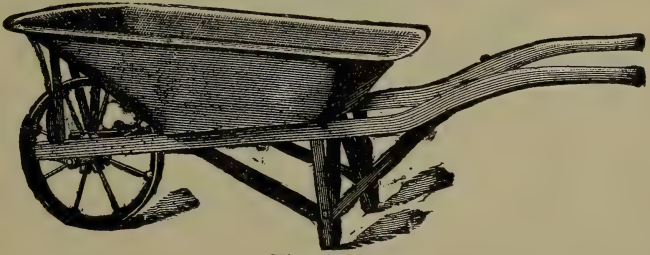


Fig. 1580.

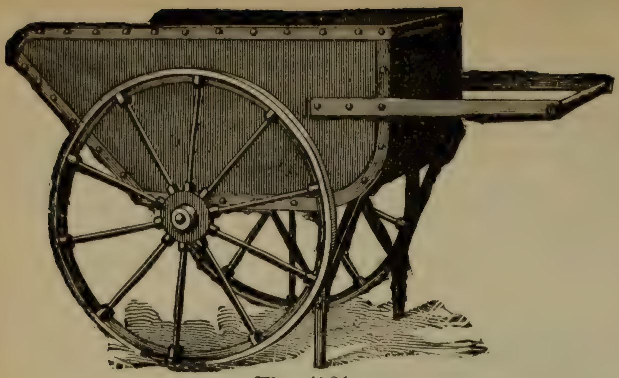
COAL BARROWS.

No.	Capacity.	Tray.	Handles.	Weight.	Price.
B1.	200 pounds.	No. 14	No. 12	78 pounds.	$14.50
B2.	250 “	“ 14	“ 12	84 “	15.00
B3.	325 “	“ 14	“ 12	90 “	16.00
B3½	325 “	“ 12	“ 10	105 “	20.00
B4.	400 “	“ 11	“ 10	130 “	22.00

Wheels, 16 inches diameter.

Each Barrow of the above is put up with Bolts. The parts of Barrows of same size are interchangeable and loss or breakage of any part is readily replaced. The Barrows can be taken apart for shipment, packed compactly, and again set up without difficulty.

The Axles are stationary, being threaded and screwed into the Brackets, thus bracing the handles and becoming bearings for the wheels. In ordering state whether “Standing” or “Knocked Down” for shipment.



TWO-WHEELED STEEL BARROW.

Coal or Coke.

Fig. 1581.

No.	Cubic Ft.	Lbs. Coal.	Bottom.	Sides.	Price.
1	8	400	No. 12	No. 14	$40.00
2	10	500	" 12	" 14	45.00
3	12	600	" 12	" 14	47.50
4	16	800	" 10	" 12	50.00
5	20	1000	" 10	" 12	52.50

Perfectly balanced, is light running, and has no equal. Wheels, 24 to 30 inches diameter.

TUBULAR STEEL WHEELBARROWS.

WITH WHEEL GUARD.

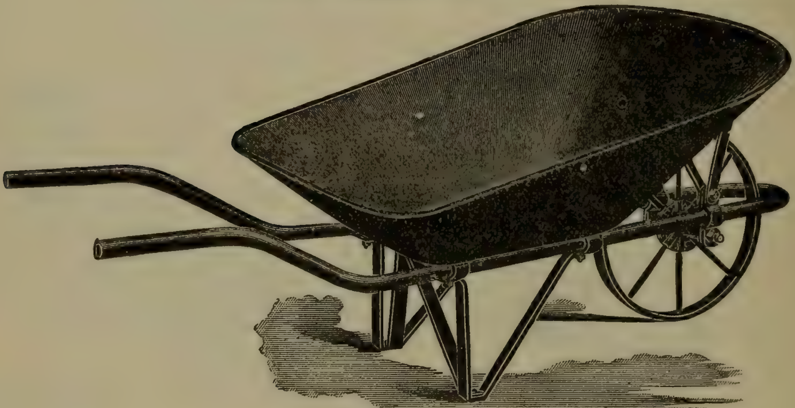


Fig. 1582.

TABLE OF DIMENSIONS, CAPACITY, WEIGHT AND PRICE.

No.	Gauge of Steel in Tray.	Length on Top.	Width on Top.	Depth at Wheel.	Depth at Handle.	Greatest Height.	Cubic Capacity.	Weight.	Price, Each.
4	15	32 in.	29 in.	7 in.	5 in.	19½ in.	3 ft.	70 lbs.	$10.75
4½	14	32 "	29 "	7 "	5 "	19½ "	3 "	75 "	11.50
5	14	35½ "	28½ "	8½ "	6 "	21½ "	4 "	78 "	13.50
6	14	32 "	29 "	7 "	5 "	19½ "	3 "	83 "	12.25
7	14	35½ "	28½ "	8½ "	6 "	21½ "	4 "	88 "	14.25
8	12	32 "	29 "	7 "	5 "	19½ "	3 "	95 "	14.00
9	12	35½ "	28½ "	8½ "	6 "	21½ "	4 "	98 "	16.00
10	13	41½ "	33 "	11½ "	8 "	25½ "	6 "	109 "	20.00
12	15	41½ "	33 "	11½ "	8 "	25½ "	6 "	93 "	18.50

Greatest Length of all Barrows, 67½ inches. Greatest Width of all Barrows is width on top of Tray.

Nos. 4, 4½ and 5 are Dirt Barrows. Nos. 6 and 7 are Coal or Mining Barrows. No. 7 has Coal capacity 215 to 250 lbs. Nos. 8 and 9 are Foundry Barrows. No. 10, Coal Barrows. No. 12, Coke or Charcoal Barrows. Cut shows No. 12 Coke Barrow.

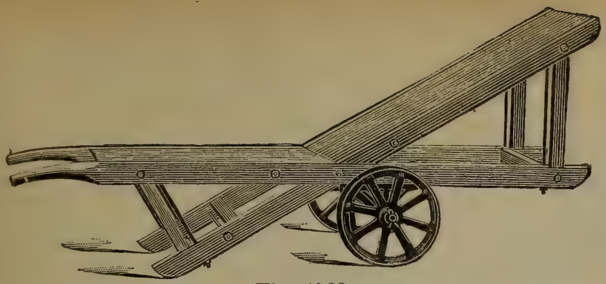


Fig. 1583.

LIGHT BAGGAGE BARROW.

A cheap and handy Barrow for use at small stations.

Frame, best seasoned ash or oak; length, 7 feet; width, 2 feet. Not ironed on top. Painted green and varnished. Cast iron wheels. 14 inches diameter, 2½ inch face. Axle, 1¼ inch round steel, 3 feet long. All irons painted black.

Weight, 200 pounds.

Price, ... $25.00

BAGGAGE BARROWS. PAINTED VERMILION. IRONS BLACKED.

Improved Staggered Wrought Spoke Wheels.

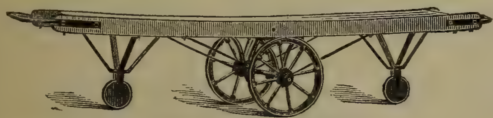


Fig. 1584. Curved Pattern.

No.	Length, Feet.	Width, Inches.	Height over Wheels—Floor to top of Platform, Inches.	Wheel, Inches.	Weight.	Price.
1	8	24	23½	20x2	345	$40.00
2	10	27	23½	20x2	356	45.00
3	13	29	24	20x2	425	55.00

PAINTED GREEN, IRONS BLACKED.

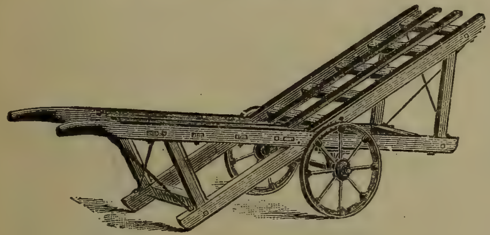


Fig. 1585. Sloping Back Pattern.

No.	Length, Feet.	Width, Inches.	Height at— Rear Leg, Inches	Height at— Front Leg, Inches.	Wheel, Inches.	Weight.	Price.
1	7	24	19½	16	17½x2	217	$33.00
2	9⅓	27	24	21½	20 x2	300	40.00
3	9½	30	25	21½	20 x2	340	55.00

All wheels on these Barrows are bored true to centre, and axles turned as carefully as a buggy axle.

BAGGAGE WAGON.

With Improved Staggered Wrought Spoke Wheels, Steel Axles.

Wrought Iron Fifth Wheel, 20 inches in diameter. Front Wheels, 20 inches in diameter; Rear Wheels, 22 inches.

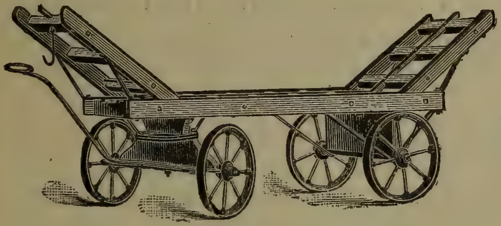


Fig. 1586.

No.	Length.	Width.	Dash.	Price.
1	7 ft.	26 in.	28 in. long.	$70.00
2	10 ft.	27 in.	35 in. long.	80.00
3	12 ft.	32 in.	44 in. long.	90.00

Weight—No.1, 475 lbs.; No. 2, 600 lbs.; No. 3, 725 lbs.

Baggage Wagons furnished with "Sarven Patent" or "K. & J." Wood Wheels when desired.

EXPRESS WAGONS.

Improved Pattern.

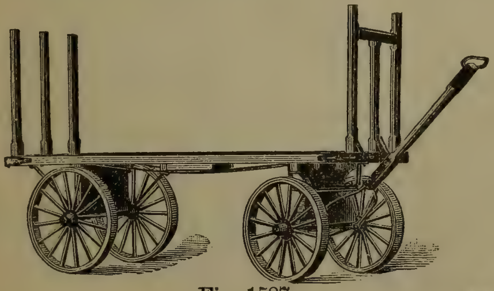


Fig. 1587.

Express Wagon with "Sarven Patent" Wood Wheels, Steel Axles. Also furnished with "K. & J." Wood or American Pattern Iron Wheels.

Wrought Iron Fifth Wheel, 20 inches in diameter; Front Wheels, 28 inches in diameter; Rear Wheels, 31 inches in diameter; Platform, 10 feet long, 39 inches wide, 35 inches high. Weight, 670 lbs.

Price, ... $100.00

These Wagons are of new and improved pattern. All material carefully selected. Thoroughly ironed and braced; well finished; painted vermilion and green, and striped and varnished.

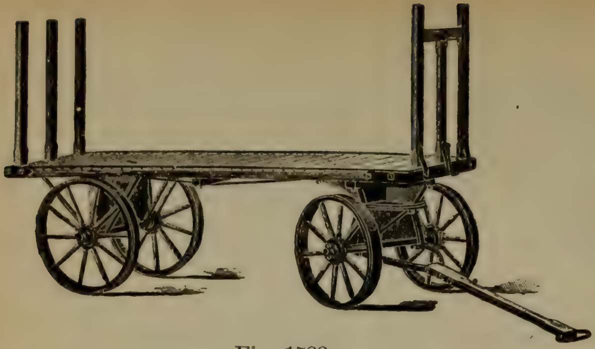


Fig. 1588.

"K. & J." EXPRESS WAGON.

TUBULAR AXLES.

With K. & J. Improved Wood Wheels.

Platform, 10 feet long by 40 inches wide by 35 inches high; painted green.

Front wheels, 28x3½ inches. Rear wheels, 31x3½ inches. Steel fifth wheel, 20 inches diameter. Wheels and running-gear painted bright red. Weight, 590 lbs. . . . . Price, $90.00.

DOUBLE END EXPRESS WAGON.

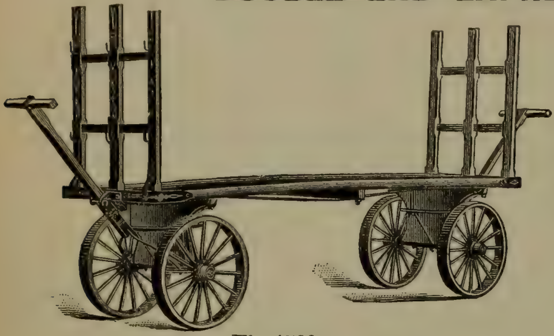


Fig 1589.

Wrought Iron Fifth Wheel, 20 inches in Diameter.

STEEL AXLES.

Size, 38½ inches by 12 feet; height from floor, 34 inches. Standards, 45 inches high, and furnished with check-hooks.

"SARVEN PATENT" WOOD WHEELS; 28 inch diameter; tire 3½x¼ inches.

Weight, 750 pounds.

Price . . . . $125.00.

NEW ENGLAND EXPRESS WAGON.

STEEL AXLES. CAST FIFTH WHEEL.

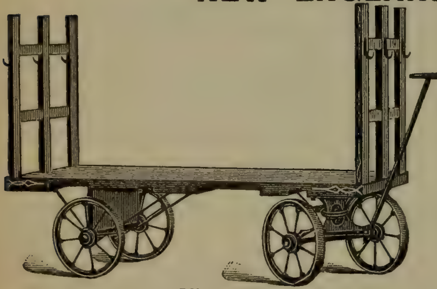


Fig. 1590.

The demand for a smaller Express Wagon, of lighter and cheaper pattern, led to make this new wagon, which is very serviceable at small stations, where baggage traffic is not heavy. Strongly constructed of the best material. Now made with Improved Steel Stake Pockets, holding stakes perfectly rigid and doing away with end straps. Platform, 7 feet long, 2½ feet wide, 22 inches high. End Racks 3 feet high, with three check-hooks on each. Improved staggered wrought spoke wheels 17½ inches in diameter, 2 inch face. Steel axles 1⅛ inch square. Painted vermilion and green and varnished. Wheels blacked. Weight, 375 pounds. Also made with 20 and 22 inch wheels. . . . . Price, $60.00.

SKIDS.

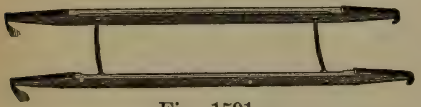


Fig. 1591.

We also make to order special sizes, and Marine and Railway Skids, heavily ironed at both ends, as shown in cut.

Price, Light Pattern, per ft. $1.00
" Heavy " " 1.25

Length, Feet.	Kind.	Side Rails, Inches.	No. of Cross-Bars.	Weight in Lbs., Ea.
6	Light.	1¼x2¾	2	24
6	Heavy.	1¾x3	2	36
7	Light.	1¼x2¾	2	28
7	Heavy.	1¾x3½	2	40
8	Light.	1½x2¾	3	30
8	Heavy.	1¾x3½	3	48
9	"	1¾x3½	3	52
10	"	1¾x3¾	3	58
12	"	1¾x4	4	90

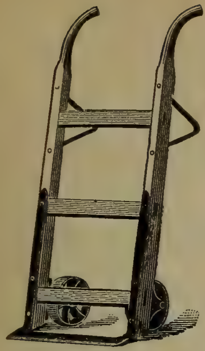


Fig. 1592.
HALF IRONED.

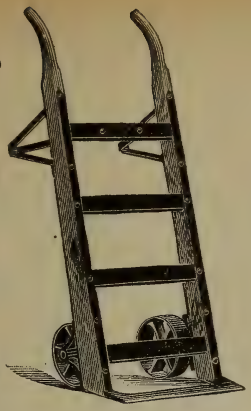


Fig. 1593.
FULL IRONED.

WAREHOUSE AND STORE TRUCKS.

Axles Turned and Wheels Bored.
Steel Nose, Side Straps, Axle and Legs.

WESTERN PATTERN. HALF IRONED.

No.	Length of Handle. Ft.	In.	Width. Inches.	Diameter of Wheel. Inches.	Weight. Pounds.	Price.
0	3	6	19	6⅞	42	$6.00
1	3	11	19	6⅞	44	7.00
2	4	4	20	7¾	56	9.00
3	4	8	22	8¾	77	13.00

FULL IRONED.

No.	Length of Handle. Ft.	In.	Width. Inches.	Diameter of Wheel. Inches.	Weight. Pounds.	Price.
0	3	6	19	6⅞	49	$7.00
1	3	11	19	6⅞	50	8.00
2	4	4	20	7¾	66	10.50
3	4	8	22	8¾	87	15.00

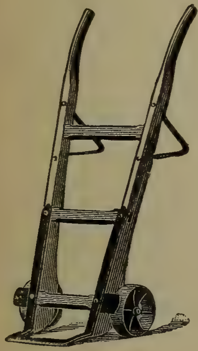


Fig. 1594.
HALF STRAPPED.

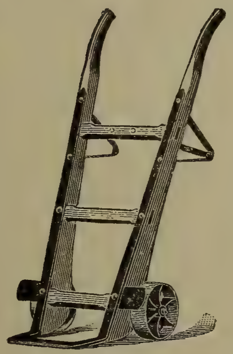


Fig. 1595.
FULL STRAPPED.

BOSTON PATTERN.

Steel Nose and Side Straps. Steel Axle.

HALF STRAPPED.

No.	Length of Handle. Ft.	In	Width at Nose. Inches.	Width at Upper Bar. Inches.	Diameter of Wheel. Inches.	Weight. Lbs.	Price.
1	4	2	12	18	6⅞	43	$6.50
2	4	6	13	19	7¾	55	8.50
3	4	9	14¾	20½	8¾	85	11.00
4	5	6	15	21¾	10¾	..	14.00
5	6	1	15⅛	23¾	12	..	17.50

FULL STRAPPED.

No.	Length of Handle. Ft.	In	Width at Nose. Inches.	Width at Upper Bar. Inches.	Diameter of Wheel. Inches.	Weight. Lbs.	Price.
1	4	2	12	18	6⅞	48	$7.50
2	4	6	13	19	7¾	60	10.00
3	4	9	14¾	20½	8¾	90	12.50
4	5	6	15	21¾	10¾	98	15.50
5	6	1	15⅛	23¾	12	120	18.50
6	6	4	16¼	25	12	135	24.00

Boston Pattern Trucks, wheels inside, 10 per cent. advance over above prices.

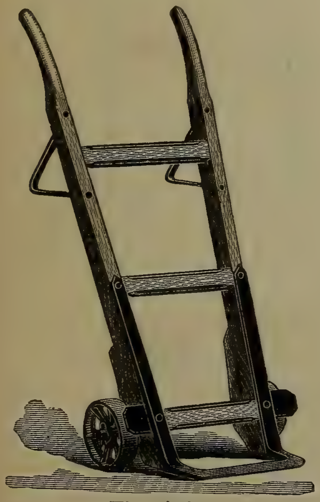


Fig. 1596.
HALF STRAPPED.

NEW YORK PATTERN.

Steel Nose and Axle.

No.	Length of Handle. Ft.	In.	Width at Nose. Inches.	Width at Upper Bar. Inches.	Diameter of Wheel. Inches.	Weight. Lbs.	Half Strapped.	Full Strapped.
1	4	0	13	16	6	36	$4.85	$6.50
2	4	5	14¾	19½	6⅞	54	6.00	8.00
3	4	7	15¾	21¼	7¾	66	7.00	9.00
4	4	11	16	21¼	8¾	80	8.00	10.00
5	5	4	17½	22¾	10¾	100	9.50	11.50
6	5	8	18¼	24¼	10¾	120	11.50	13.50

Weights given are for half strapped.

This Truck meets the demand for a lighter and cheaper Truck than Boston or Western Pattern.

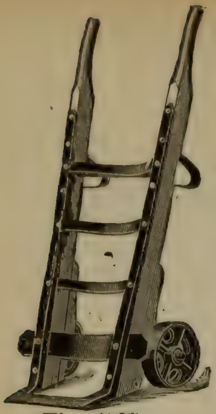


Fig. 1597.

RAILROAD, STEVEDORE OR CARGO TRUCK.

STEEL NOSE AND CROSS BARS. STEEL AXLE.

The strongest and best Truck made for Railway and Steamer use. Heavily ironed. Four curved steel bars, the wide one at nose extending as a shield over wheels. All steel parts thoroughly bolted on. Axles turned, wheels bored.

Length of Handle, 5 feet ; width of nose, 17 inches ; width at upper bar, 20½ inches ; wheels, 9¾ inches in diameter, 3-inch face ; axle, 1¼ inches square ; weight, 125 lbs.

Price, ... $24.00.

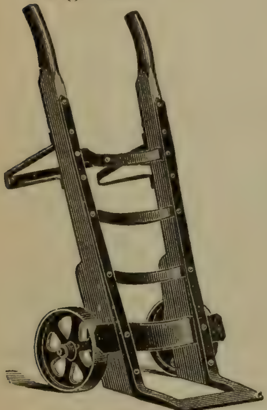


Fig. 1598.

STEAMBOAT TRUCK.

STEEL NOSE AND CROSS-BARS. STEEL AXLE.

Especially designed for the use of transportation companies in handling freight. The *strongest* and *best* Truck made for stevedoring and wharf-boat use. Truck solidly bolted together; heavily ironed. Four curved steel cross-bars, with an extra straight cross-bar under upper one, Cross braces on legs. Axles turned. Wheels bored.

Length of handle, 5 feet; wheels, 12 inches in diameter, 3-inch face ; nose, 9 inches long; width at nose, 17 inches; width at upper bar, 21 inches ; axle, 1¼ inches square; weight, 140 lbs.

Price, ... $26.00.

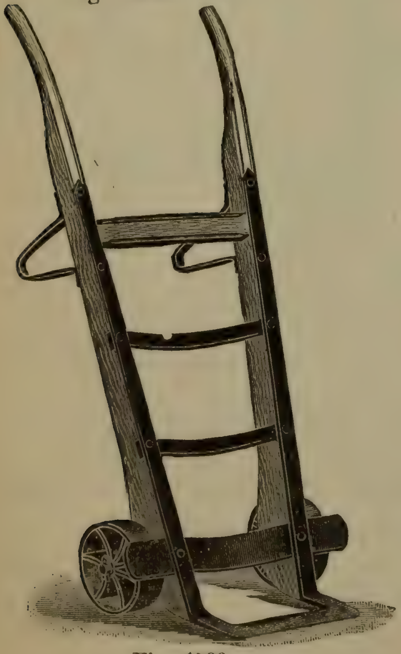


Fig. 1599.

BARREL TRUCK.

NEW YORK PATTERN.

Steel Nose, Side Straps and Cross-Bars

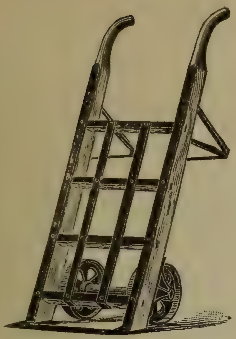
Steel Axle.

No.	Length of Handle Ft.	Length of Handle In.	Width at Nose, Inches.	Width at Upper Bar, Inches.	Wheels Dia.	Wheels Tread	Weight.	Price.
1	4	0	13	16	6	1⅜	50	$7.00
2	4	5	14¾	19½	6⅞	2	65	9.50
3	4	7	15¾	21¼	7¾	2½	92	10.00
4	4	11	16	21¼	8¾	2¾	100	12.00
5	5	4	17½	22¾	10¾	2¾	120	13.00

For all Iron Slats add $1.00 to list.

These trucks are made of the best selected hickory, oak or ash lumber. Bolts pass through straps, tenons and handles. Axles turned, wheels bored, and all parts made in the most approved way. Finished with best agricultural coach varnish. Iron parts blacked.

RAILROAD AND PACKING HOUSE TRUCKS.



R. R. Full Ironed.
Fig. 1600.

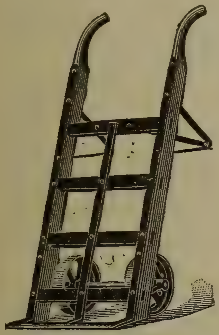
WESTERN PATTERN.

Extra Heavy. Cross-Bars and Straps Bolted through Handles. Axles Turned and Wheels bored.

Steel Nose and Side Straps. Steel Axle.

No. 4. Length of Handle, 5 feet; width, 24 inches; diameter of wheel, $10\frac{3}{4}$ inches; weight, 120 lbs., ... Price, $20.00

No. 5. Length of Handle, $5\frac{1}{2}$ feet; width, 25 inches; diameter of wheel, 12 inches; weight, 150 lbs , ... Price, $24.00



Extra R.R. Full Ironed.
Fig. 1601.

No. 4 Extra. Length of Handle, 5 ft.; width, 24 inches; diameter of wheel, $10\frac{3}{4}$ inches; weight, 126 lbs., . . . Price, $22.00

Centre Strap Welded to Nose.

These Trucks are made of the best selected second growth hickory, ash or oak lumber. Iron on cross pieces extends through to outside of handles, with bolts passing through iron, tenons and handles. All steel parts are heavier than iron parts ordinarily used. Axle and collar forged from one piece. All parts made in the most substantial manner, and will stand the roughest usage.

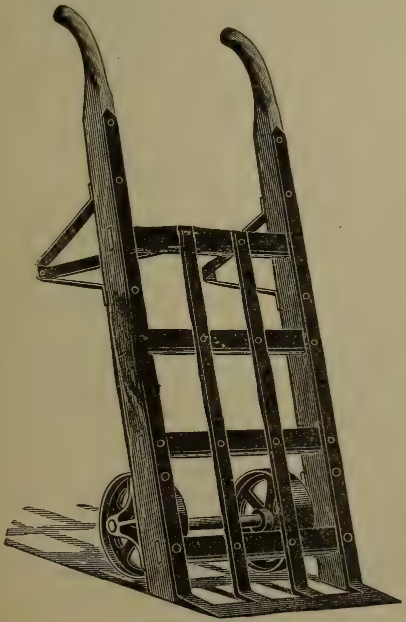


Fig. 1602.

HEAVY RAILROAD TRUCK.

No. 4XX.

EXTRA HEAVY.

Two Centre Straps Welded to Nose.

The Strongest and Most Durable Truck ever made for general use in Railway Freight Houses. It has been adopted by many leading railroads of the United States as their Standard Truck.

This Truck has two centre straps welded to the nose instead of one, and the DASH, SIDES AND CENTRE STRAPS ARE EXTRA HEAVY.

Weight, 137 pounds.

Price, ... $28.00

"CALIFORNIA" LUMBER TRUCK.

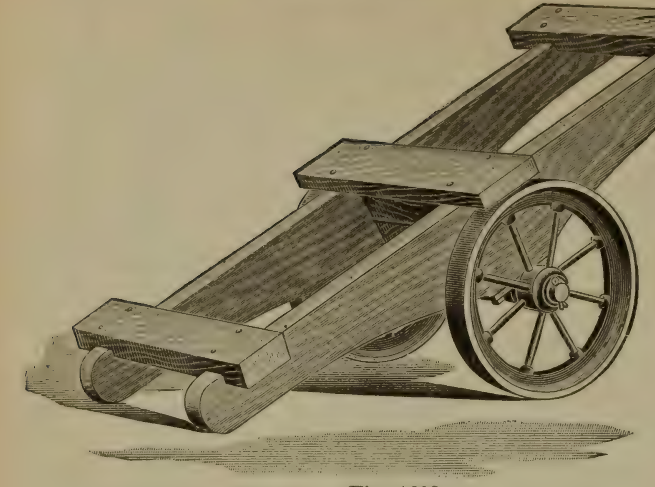


Fig. 1603.

Length, 76 inches; width, 31 inches; sills, 3x12 inches, end-bars, 3x6 inches; center-bar, 2x6 inches; axle blocks, $1\frac{3}{4}$x12 inches; steel axle, 2 inches square; staggered spoke Iron Wheels, 24 inches diameter, with extra Wrought Tires, 4 inches tread; Hub, 5 inches long. Wood varnished. Wheels blacked. Weight, 500 pounds. Price, $35.00.

"WISCONSIN" LUMBER BUGGY.

This is similar to above cut, but the frame is lighter and cross-bars at ends extend outside of frame, so as to form handles. Length, 6 feet; width, 3 feet; has "K. & J." Improved Wood Wheels, 40 inches in diameter, 3 inch tread. Steel axle, $1\frac{3}{4}$ inch square by 5 feet long. Painted Venetian red. Weight, 300 pounds. Price, $30.00.

OHIO LUMBER TRUCK.

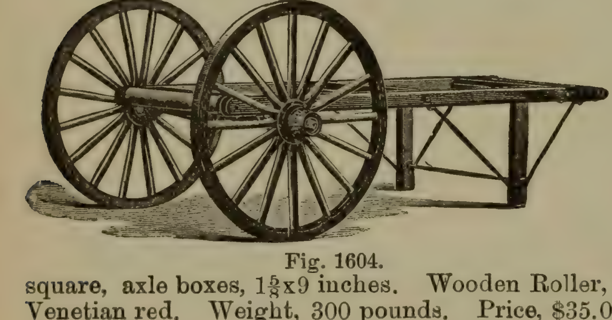


Fig. 1604.

The most economical way of handling lumber in large yards. All bolt heads in iron straps on top of frame are countersunk to avoid scratching smooth lumber. The frame is 8 feet long, but is made shorter if desired. Width, 36 inches; height, 24 inches. Wheels, 40 inches in diameter; tires, 2x$\frac{3}{8}$ inches. Steel axle, $1\frac{3}{4}$ inches square, axle boxes, $1\frac{5}{8}$x9 inches. Wooden Roller, $3\frac{1}{2}$ inches in diameter. Painted Venetian red. Weight, 300 pounds. Price, $35.00.

TIMBER DOLLY.

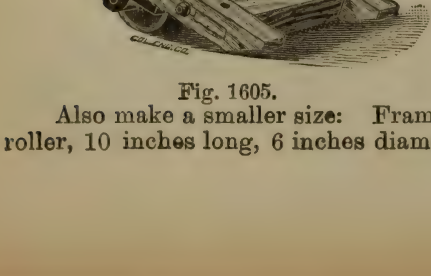


Fig. 1605.

The Standard Timber Dolly, used in logging regions, either as a Truck, as shown in cut, or as a Roller when bottom side up. Mortised frame of hardwood, with beveled edges; size, $19\frac{1}{2}$ inches wide by 26 inches long; varnished. Heavy cast iron roller, 12 inches long, 6 inches diameter, with journals fitted in cast iron boxes which are firmly bolted through side rails of frame; weight, 58 lbs. Price, $8.00.

Also make a smaller size: Frame $15\frac{3}{4}$ by $18\frac{3}{4}$ inches; ends square, not beveled; roller, 10 inches long, 6 inches diameter; weight, 42 lbs. Price, $6.00.

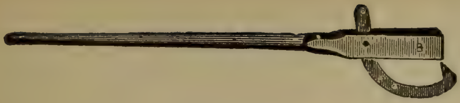


Fig. 1606.

CANT HOOKS.

SELECTED HICKORY HANDLES.

With Steel Pointed Hooks, . Each, $3.00
With All Steel Hooks, . . " 3.50

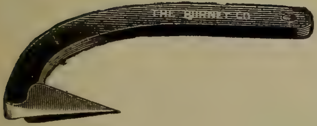

THE BURNET CO.

Fig. 1607.

CANT AND PEAVEY HOOKS, DUCK BILL.

Drop Forged. Best Cant Hook Steel.

Price, ... Each, $0.72

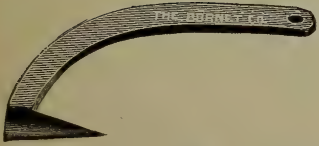

THE BURNET CO.

Fig. 1608.

CANT AND PEAVEY HOOK ROUND BILL.

Drop Forged. Best Cant Hook Steel.

Price, ... Each, $0.72

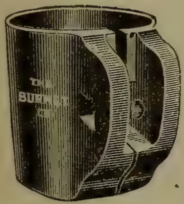


Fig. 1609.

CANT OR PEAVEY HOOK CLASP.

Drop Forged. Sizes, 2½ to 3 inches.

Price, ... Each, $0.60

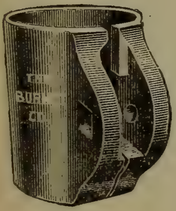


Fig. 1610.

CANT OR PEAVEY HOOK CLASP.

Drop Forged. Sizes, 2½ to 3 inches.

Price, ... Each, $0.60

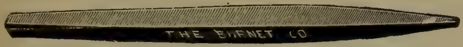

THE BURNET CO.

Fig. 1611.

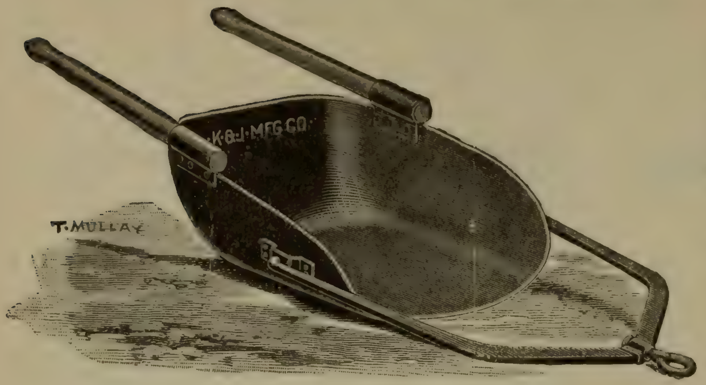
CANT AND PEAVEY PIKES.

Made of Best Cant Hook Steel.

Price, ... Per lb., $0.36

"COLUMBUS" SOLID STEEL SCRAPER.

THE LEADING ALL-STEEL DRAG SCRAPER.



No. 1. Without runners, carries 7 feet of earth. Used for long haul or down grade. Size of bowl: Top of back to cutting edge, 33½ inches; width, 32 inches; depth, 11½ inches; weight, 102 pounds.

Price . . $
Price, with runners . .
Price, with double bottom

Fig. 1612.

"BOSS" SOLID STEEL DRAG SCRAPER.

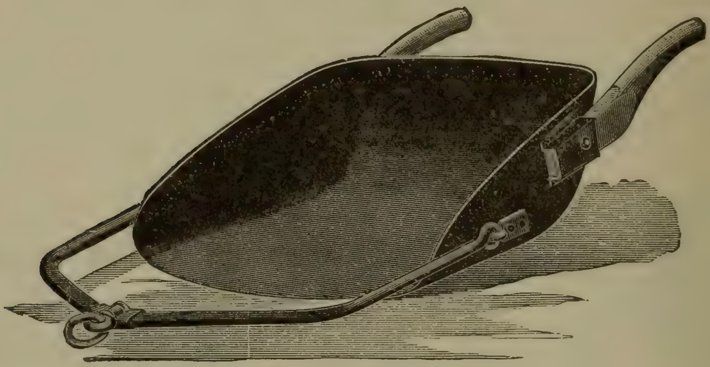


Fig. 161

No. 1. Capacity, 7 cubic feet; weight without runners, 90 lbs.; price . $
" 2. " 5 " " " 80 " " .

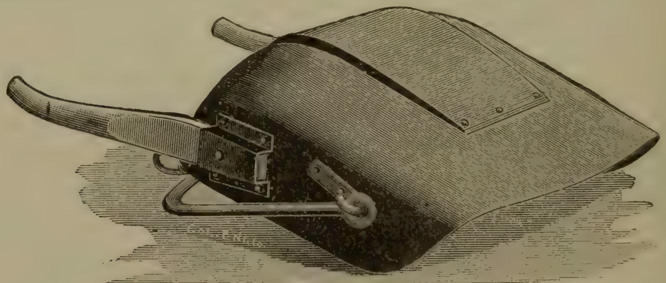


Fig. 1614.

No. 1. Capacity, 7 cubic feet; weight with runners, 98 lbs.; price . . $
" 2. " 5 " " " 88 " " . .
" 1. " 7 " " with bottom plate, 105 lbs.; price .
" 2. " 5 " " " " 95 " " .

Fig. 1614 shows Bottom Plate. We always ship Scraper without runners or bottom plate, unless otherwise ordered.

THE NEW IMPROVED

"K. & J." PRESSED BOWL WHEEL SCRAPERS.

WITH "BETENDORF" METAL WHEELS–TIRES 4 INCHES WIDE.

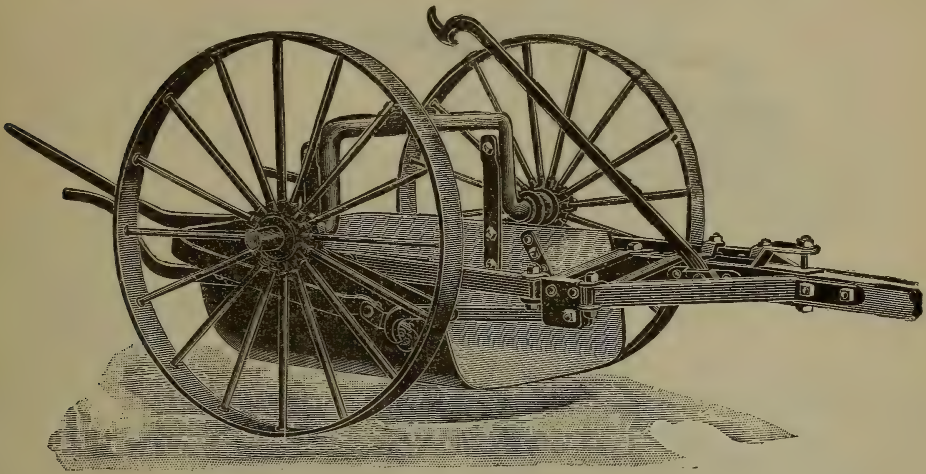


Fig. 1615.

No. 2. Capacity, 13 cubic feet; wheels, 40 inches in diameter; tire, 4x½ inches. Size of box: length, 36 inches; width, 38 inches; depth, 13½ inches—all inside measurement. Tracks, 4 feet 7 inches. Weight, 693 pounds. . $

No. 3. Capacity, 17 cubic feet; wheels, 46 inches in diameter; tire, 4x½ inches. Size of box: length, 42 inches; width, 42 inches; depth, 16 inches—all inside measurement. Tracks, 5 feet 2 inches. Weight, 850 pounds. . . $

No. 3 has draft rod for "snatch team." No. 2 sent with draft-rod only when specially ordered. We also can furnish "K. & J." Wood Wheels, with hardened cast hubs, on these Scrapers when so specified; they are much superior to the old style wooden hub wheels with which other wheel scrapers are made, being more durable and running easier. Whiffletrees and Neck-yokes are never furnished with Wheel Scrapers, unless specially ordered, and are always charged extra.

TONGUE SCRAPER.

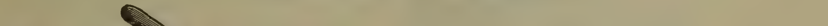


Fig. 1616.

THE DRIVER FILLS AND DUMPS HIS OWN LOAD WITH EASE.

No. 1 Scraper and Ditcher, 48 inches wide, weight 123 lbs., list price. . . $14.00
No. 2 " " " 36 " " " 113 " " " . . 13.00

All our Scrapers have Steel Bottoms, with Ground Edges and Best Steel Shoes.
No Whiffletrees or Neck-yokes furnished with Scrapers.

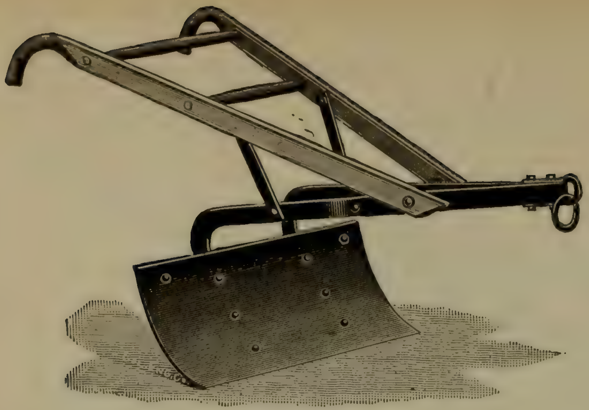


Fig. 1617.

SURFACE GRADER.

Steel Blade, ¼ Inch Thick.
15 In. Wide and 30 In. Long.
Weight, 60 Lbs.

Price . . $

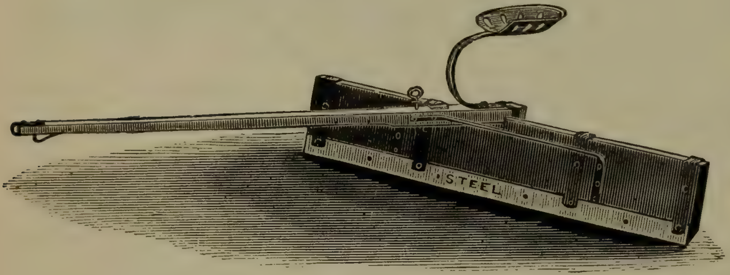


Fig. 1618.

ROAD LEVELER.

Steel Blade, ¼ Inch
Thick by 4x72 In.,
and
Stamped Steel Seat.

Weight, 150 Lbs.

Price, . $

GREAT WESTERN RAILROAD OR GRADING PLOWS.

The Best Grading Plows You Can Buy.

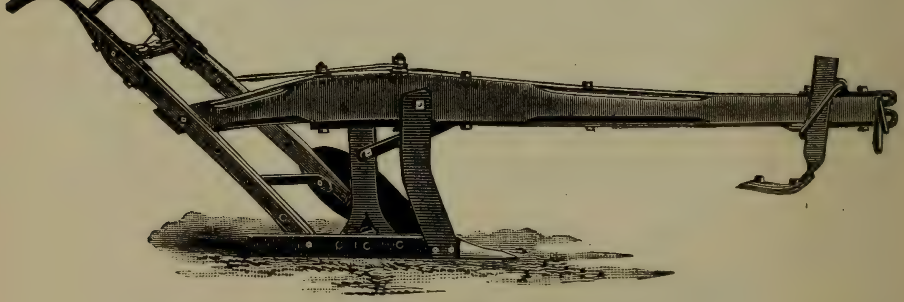


Fig. 1619.

TWELVE-HORSE PLOW, No. 103.

The Standard, Mold-Board and Point are made of Extra Quality of Wrought Steel. The Mold-Board and Point are made of the Best Plow Steel, and both double shinned. The Handles and Beam are of the best second-growth hardwood lumber, with Handholds Solid Steel. Plows Nos. 101 and 103 are also provided with a heavy improved Steel Shoe, or runner, upon the side to protect the Handles when the Plow is dragging. Made in four sizes, and Right or Left Hand. All sizes are provided with Best Reversible Steel Cutters.

The principal strain is carried by heavy Steel Draft Rod underneath the Beam, and the entire Plow is constructed to stand the very hardest usage. They cut 12 inches with Light Draft.

FOUR-HORSE PLOW, No. 105.

This Plow is medium size between Nos. 101 and 106. It cuts 10 inches, and while not intended for extremely hard material, is strong enough for any material that four horses can break. In ordering, please specify whether Right or Left Hand Plow is wanted. It is a great favorite with contractors.

Price List see Page 467.

GREAT WESTERN RAILROAD OR GRADING PLOWS.

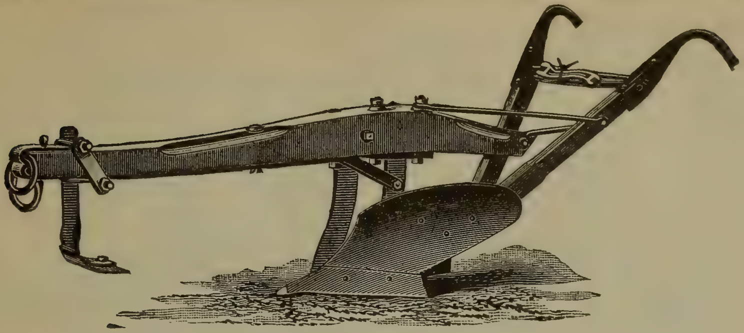


Fig. 1620.

TWO-HORSE PLOW, No. 106.

This Plow is Ironed same as the larger sizes and is stronger and more durable than the Plows offered by other manufacturers at same price. It is a good Township Plow.

In ordering any Plows in this list, it is necessary to State the size by Number, and whether they are desired Right or Left Hand.

We can supply Contractors on any kind of work with just such a plow as they desire, they deciding for themselves how large a Plow their work requires.

Prices for Plows include One Extra Landside Point.

A Wrench Goes with every Plow.

TABLE OF SIZES, WEIGHTS AND PRICES

No.	Horse Power.	Weight.	Price.	Landside Points. Weight.	Landside Points. Price.
106	2 to 4	135 lbs.	$25.00	19 lbs.	$4.50
105	4 to 6	170 "	30.00	21 "	5.00
101	6 to 8	220 "	38.00	33 "	6.00
103	12 to 14	300 "	45.00	43 "	7.50

Our Twelve-Horse Plow, No. 103, is strong enough for fourteen horses. It will work in the hardest material for months without injury, except the wear on the Share, Mold-Board, etc., incident to that kind of work.

We recommend No. 103 Plow for hard-pan, frost, loose rock, etc. Our Six-Horse Plow, No. 101, is really strong enough for eight horses. No. 105 is our Four-Horse Plow, and strong enough for use in any material that number of horses can break. No. 106 Plow, for light soil, requiring only two horses, but strong enough for four, cutting 10 inches, gives universal satisfaction.

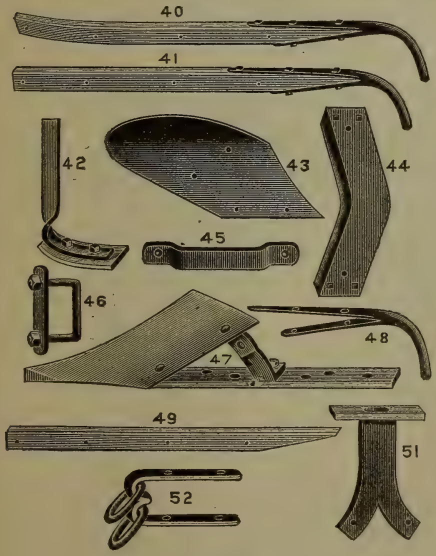


Fig. 1621.

PRICE LIST OF PARTS

FOR GREAT WESTERN PLOWS.

Figs. 1619 and 1620.

Name of Part.	No. of Part. Fig. 1621.	Number of Plow. 106	Number of Plow. 105	Number of Plow. 101	Number of Plow. 103
Landside Point	47	$3.00	$3.50	$4.25	$5.25
Standard and Cap	51	2.25	2.75	3.00	4.25
Mold-board	43	2.50	3.00	3.75	5.00
Cutter	44	1.25	1.25	1.50	1.50
Shoe or Slide	42	.75	.75	1.00	1.00
Shoe Clamp	46	.40	.40	.50	.50
Clevis and Rings	52	.65	.65	.75	.75
Handles with Handholds	40 & 41	1.75	1.75	1.75	1.75
Handles, Wood only,	49	.75	.75	.75	.75
Iron Handhold	48	1.00	1.00	1.00	1.00
Drag Iron	45	.60	.60	.60	.60

In ordering, be particular to state size of Plow and whether Right or Left Hand, and also the number of the Part as given above corresponding to cut of same.

CONTRACTORS' LIGHT AND HEAVY DUMP CARTS.

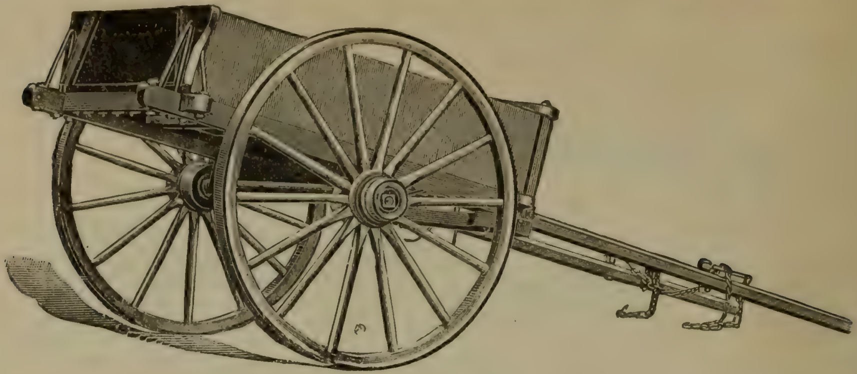


Fig. 1622.

Heavy Cart, Capacity, 24 Cubic Feet. Weight, 800 pounds.

Light Cart, Capacity, 21 Cubic Feet. Weight, 650 pounds.

The Cart is painted Venetian Red. The Wheels are set to Standard Wide Track, 5 feet 2 inches. Strong, Substantial, Durable. Made throughout of Hardwood, Strongly Bolted and Braced. Specially adapted for the hardest usage, in hauling Rock, Gravel Clay, and other Heavy Material. Parts easily replaced when worn out.

Heavy Cart: Bed—Size of inside, 66 inches long, 44 inches wide, 14 inches deep.
Light Cart: Same length and width, 12 inches deep. Steel Axle—$2\frac{1}{4}$ inches square.
Wheels: 54 inches diameter. Spindle—$2\frac{1}{4}$x10 inches.
Hubs: 9 inches diameter, 12 inches long. Wood Axle Bed—$3\frac{1}{4}$x8 inches.
Spokes: Fourteen $2\frac{1}{2}$ inch best second-growth oak.
Tires: 3x$\frac{1}{2}$ inch. Shafts—Oak or Ash, $2\frac{3}{4}$x$3\frac{1}{4}$ inches, with heavy Cross-Bar, $2\frac{1}{2}$x8 inches.
Supplied with necessary Chains and Hooks as in cut.

The Bed has two heavy Sills, $2\frac{3}{4}$x4 inches, with heavy Cross-Piece, $2\frac{3}{4}$x3 inches at rear end. The Sides, Ends and Bottom are all $1\frac{3}{8}$ inches thick. The front end Board has Cross-Piece on top, $1\frac{3}{4}$x4 inches, bolted down through the Sills, and these bolts firmly bind together the front end of the bed. There are also four heavy anchor bolts INSIDE on each Side Board, firmly securing them to the Side Sills, and the Side Boards have heavy iron straps along the upper edges. The rear ends of Sides and the Tail Gate have heavy iron braces.

Heavy Cart with Wing-Boards or Hopper, weight, 890 pounds. Price . . . $

MEXICAN OX CART.

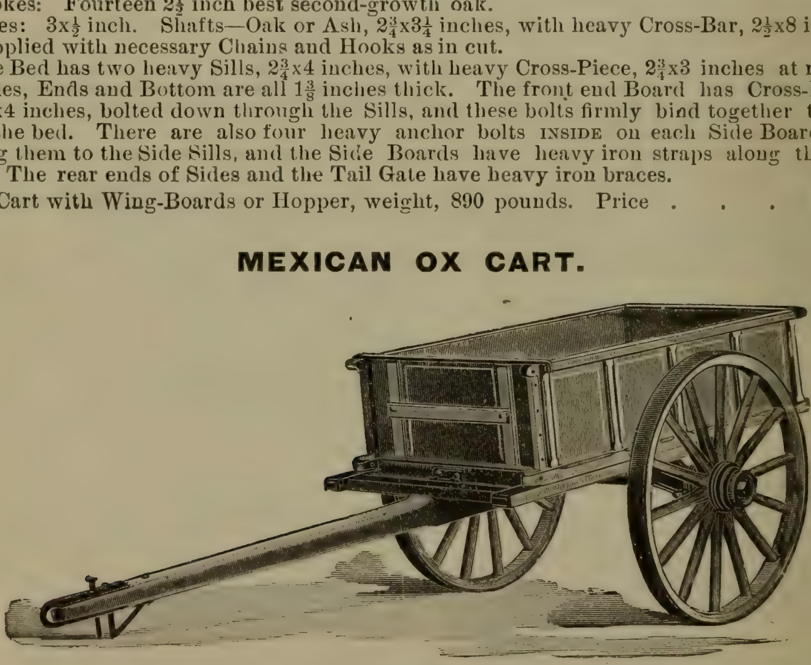


Fig. 1623.

Size of Bed, 6 feet long, 40 inches wide, 18 inches deep, inside measure, Front and Back Boards removable. Heavy Wood Hub Wheels, 48 inches diameter; Tire, $3\frac{1}{2}$x$\frac{1}{2}$ inches; Skein Boxes, $1\frac{3}{4}$x9 inches. Steel Axles, 2 inches square; Tongue or Pole, $6\frac{1}{2}$ feet long by 5 inches in diameter at rear, and 3 inches where Ox-yoke attaches. Bed painted green. Wheels and gear vermilion. Capacity, 30 cubic feet; weight, 800 pounds. Price, $

CONTRACTORS' DUMP CARS.

3-Yard, Class E, Two-way Dump Steam Shovel Car, 36 in. Gauge.

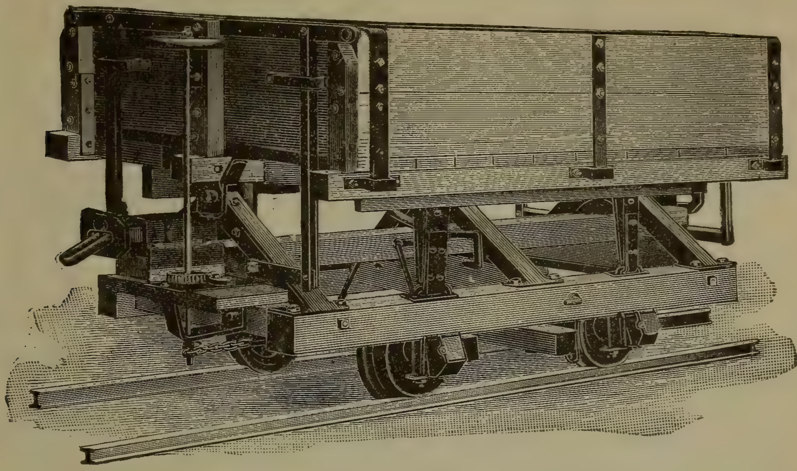


Fig. 1624.

CARRYING POSITION.

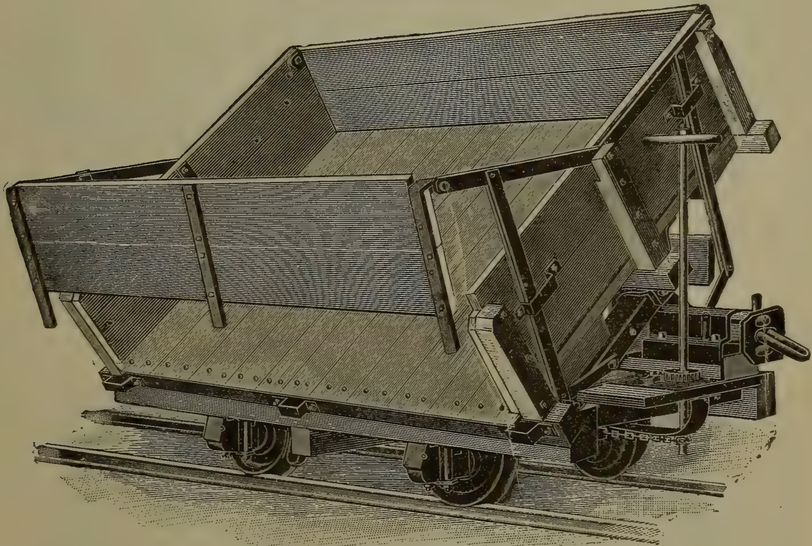


Fig. 1625.

DUMPING POSITION.

The above cuts show the improved Class E, Two-way Dump Cars, with heavy Wooden Sills, Boxes bolted direct to Sills.

Inside Dimensions of Bed—Length, 96 in.; width, 72 in.; depth, 20 in. Total length from end to end of coupler, 141 in. Total width over all, 78 in.

Chilled Plate Wheels—16 in. diameter; weight, 130 pounds each.

Axles—$2\frac{3}{4}$ in. Round Steel. Bronzed Journal Bearings, $2\frac{1}{2}$x7 inches.

Height—From top of rail to centre of draw-bar, 27 in.; from top of rail to floor, 40 in.; from top of rail to top of bed, 60 in.

Weight of Car—Approximately, 3,000 pounds. Eight to a carload.

Furnished with Brakes when so ordered.

SEATS FOR DEPOTS, HALLS, HOTELS, ETC.

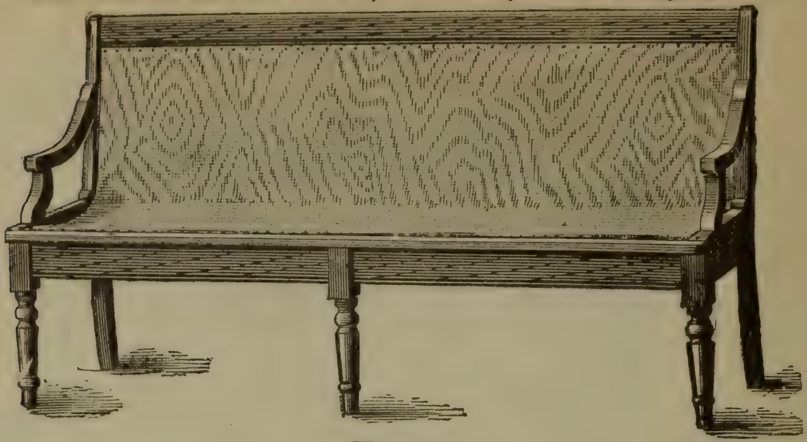


Fig. 1626.

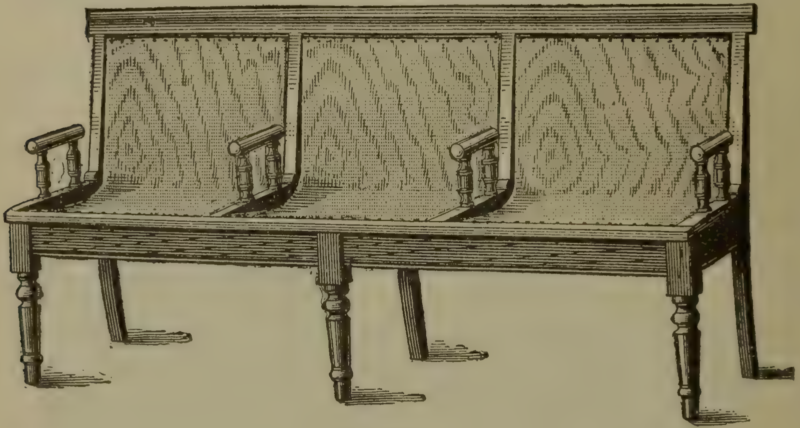


Fig. 1627.

Backs can be perforated and seat left plain, or both back and seat perforated if required, without change of price.

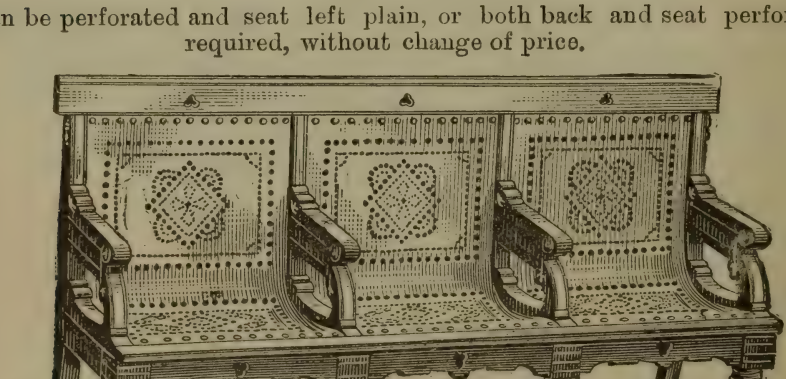


Fig. 1628.

SEATS FOR DEPOTS, HALLS, HOTELS, ETC.

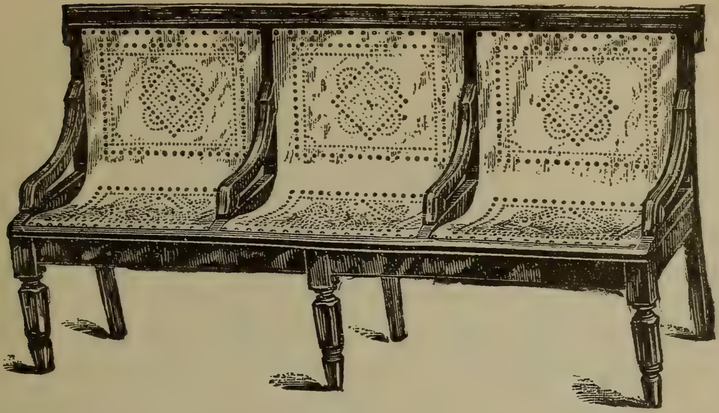


Fig. 1629.

The frames are made of ash, maple or birch, and finished natural color, antique, imitation mahogany or cherry. The veneer seat is made of birch, and perforated or left plain, and finished in any of the above colors. Prices on application.

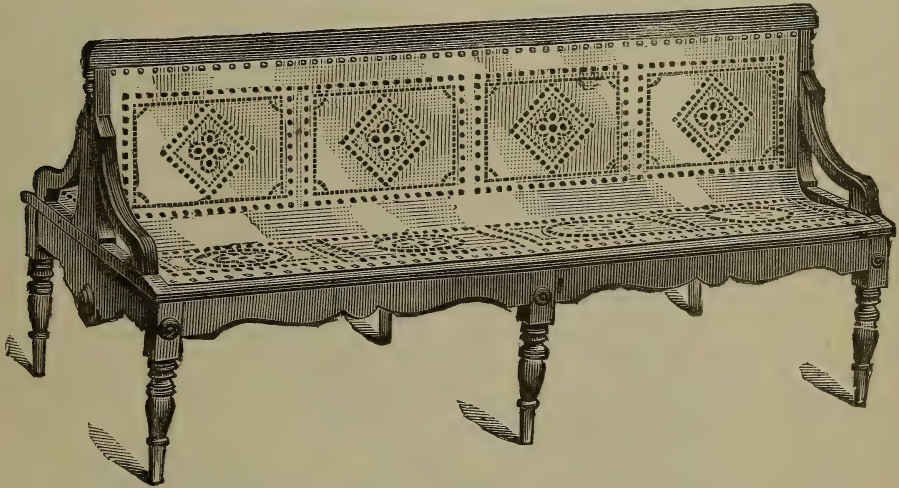


Fig. 1630. Height, 34 inches; width, 34 inches.

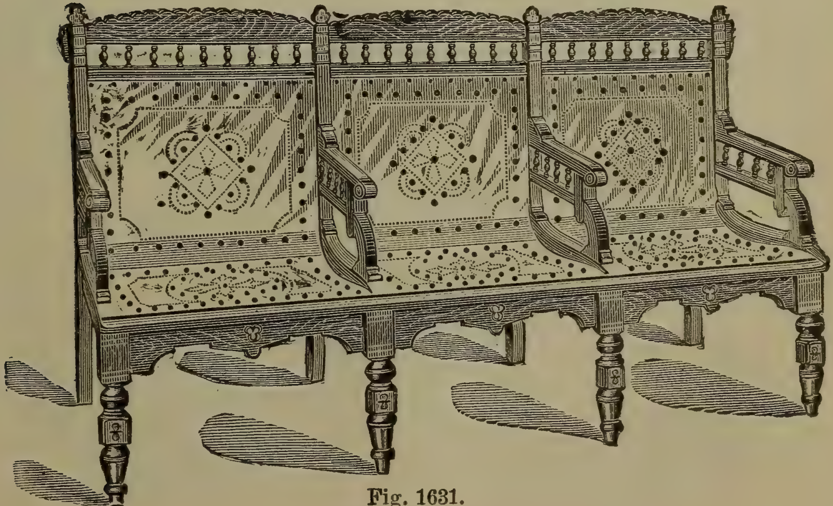


Fig. 1631.

LEATHER COVERED NAILS.

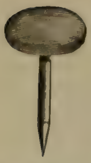


Fig. 1632.
Per M, $3.00

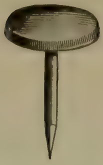


Fig. 1633.
Per M, $3.25

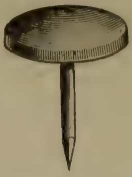


Fig. 1634.
Per M, $5.50

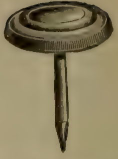


Fig. 1635.
Per M, $3.50

NOTE.—Regular length of Nails, one-half inch, put up 1,000 in a box. Special lengths and new patterns prepared when desired on large contracts.

PATENT SOLID LEATHER TUFTING BUTTONS.

THE STRONGEST, MOST DURABLE AND BEST IN THE MARKET.

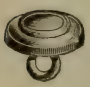


Fig. 1636.
Per Gross, $0.45

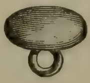


Fig. 1637.
Per Gross, $0.45

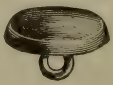


Fig. 1638.
Per Gross, $0.55

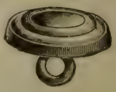


Fig. 1639.
Per Gross, $0.55

These goods made in all leather colors, and in gold, silver, copper or colored bronze

HAM'S NO. 9 TUBULAR BURNER.

NEW STYLE.

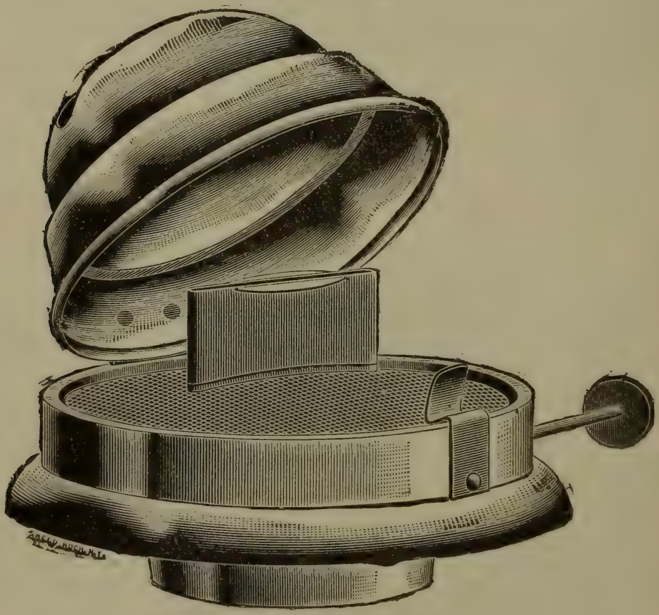


Fig. 1640.

Takes No. 3 or D Wick, 1½ inch.

Used in the following Tubular Lamps of Ham's manufacture: No. 5 Triangular, Nos. 7 and 8 Square, No. 9 Hanging, No. 9 Street Lamp, No. 10 Square Street Lamp.

Price, ... Per doz., $6.00

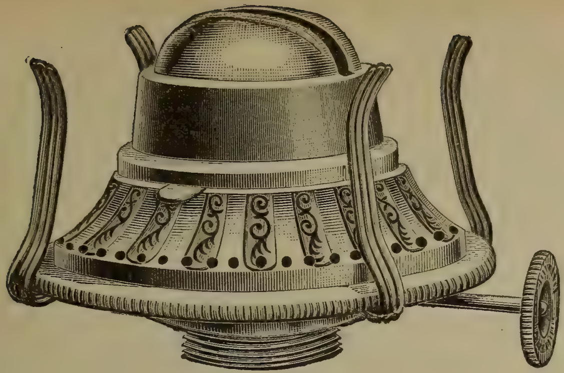


Fig. 1641.

BANNER BURNER.

Takes Sun Chimney.

No.		Per Doz.
0.	Banner . .	$0.66
1.	" . .	.78
2.	" . .	1.11

Bronze Finish, 10 cents dozen extra, net.

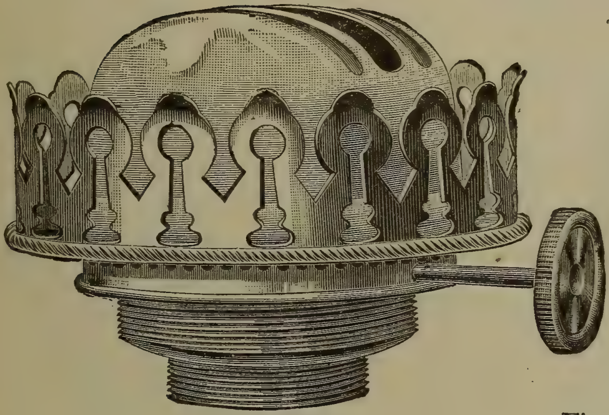


Fig. 1642.

NO. 1 CLIMAX BURNER.

Takes No. 1 Sun Chimney; fits No. 1 Collar; takes B or No. 2 Wick.

No.	Per Doz.
1	$1.66

NO. 2 SLIP.

Takes No. 2 Sun Chimney; fits Nos. 2 and 3 Collars; takes D or No. 3 Wick.

No.		Per Doz.
2.	Slip . . .	$2.00

Bronze Finish, 10 cents dozen extra, net.

Fig. 1642 shows No. 2 Climax Slip.

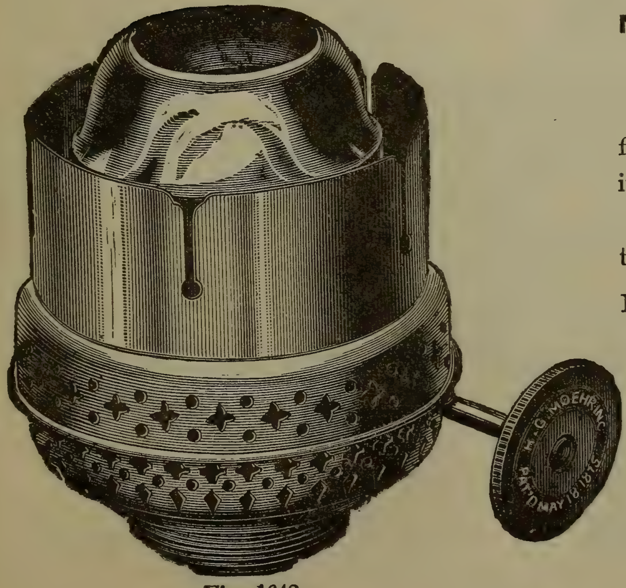


Fig. 1643.

MOEHRING ARGAND BURNER.

Takes Moehring Chimney; fits No. 2 Collar; takes Moehring Wick.

This Burner is well known to the trade.

No.		Per Doz.
3.	B Collar, Moehring, Brass . . .	$9.60
3.	B Collar, Moehring, Nickel . . .	12.00
3.	Railroad, Moehring, Brass . . .	9.60

12 dozen in case.

HEAVY OIL BURNERS.

FOR RAILROAD AND STEAMBOAT USE.

DOUBLE SPRING CAR BURNER.

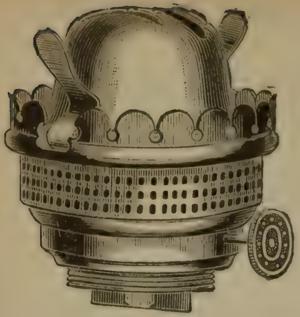


Fig. 1644.

No. B Wick, Brass, per doz.	$5.00

Takes No. 2 Lip Chimney

THE DUAL BURNER.

With two Wick Tubes.

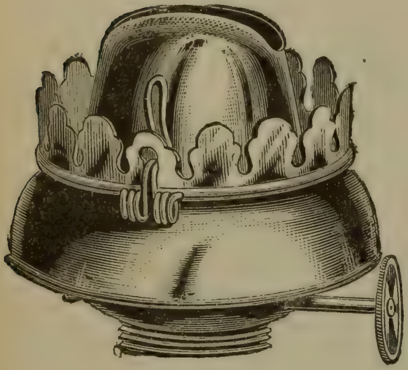


Fig. 1645.

No.		Per Doz.
1.	With Screw, Dual	$3.88
1.	Single Springs, Dual . .	3.88
2.	Double " " . .	4.44
2.	Single " " . .	4.44
2.	With Screws, " . .	4.44

Takes Lip Chimney, Common.

ORIGINAL
NO. 3
DUAL BURNER.

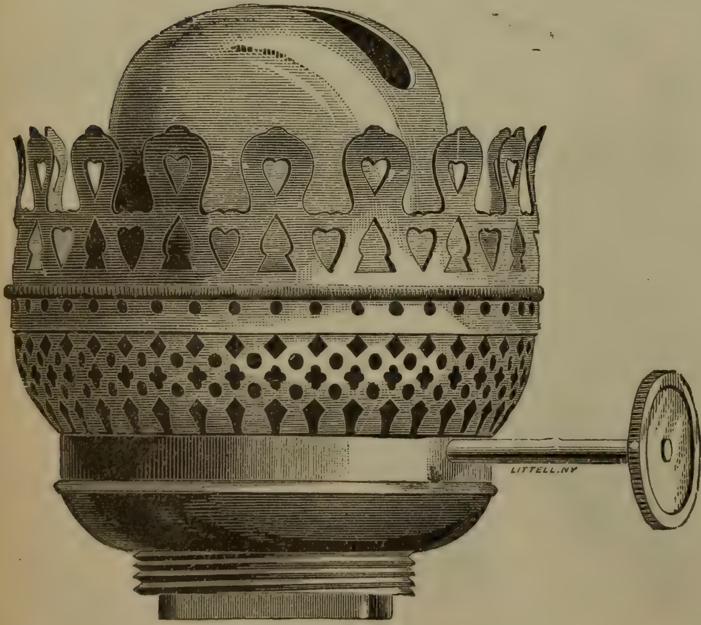


Fig. 1646.

Takes No. 3 Dual.
" " 3 H. & S.
" " 3 Oxford Chimney.

Takes No. 3 Dual Wick.

Fits Special Dual Collar.

For Mineral Sperm and other heavy Oils. Specially adapted for Railroad and Steamboat uses.

No. 3, Dual, no Skirt, per doz. $8.64

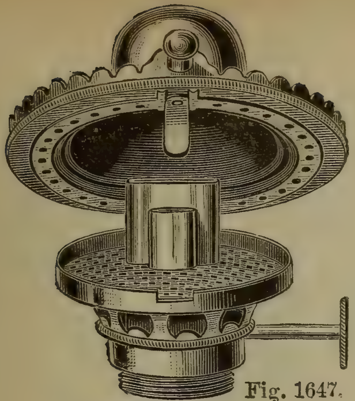


Fig. 1647.

ORIGINAL
EXCELSIOR SUN HINGE BURNER.

No.		Brass, Per Doz.
0 (E)	Excelsior Sun Hinge Burners,	$1.63
1 (A)	" " " "	1.80
2 (B)	" " " "	2.70
3 (D)	" " " "	6.30

No.		Brass, Per Doz.
0	Sun Hinge Burners, with Skirt,	$3.13
1	" " " " "	3.75
2	" " " " "	5.00

Above Burners take Excelsior Sun Hinge Chimneys.

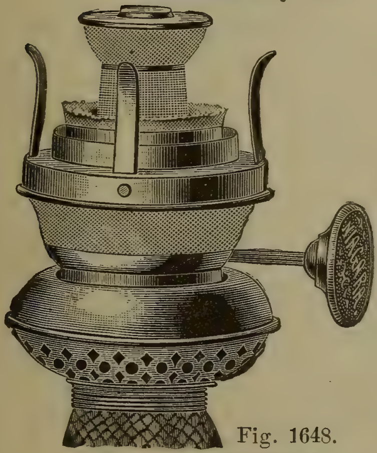


Fig. 1648.

NIAGARA BURNERS.

Furnished with Wicks.

No. 1.

No. 1 Fits No. 2 or B Collar.

Takes No. 1 Miller Chimney.
Takes No. 1 Rochester Chimney.
Takes No. 1 Niagara Chimney.

No. 1 (B) Niagara Burners, Brass, per doz., $13.50

No. 2.

No. 2 Fits No. 3 D Collar.

Takes No. 2 Miller Chimney.
Takes No. 2 Rochester Chimney.
Takes No. 2 Niagara Chimney.

No. 2 Niagara Burners, Brass, per doz., $16.20

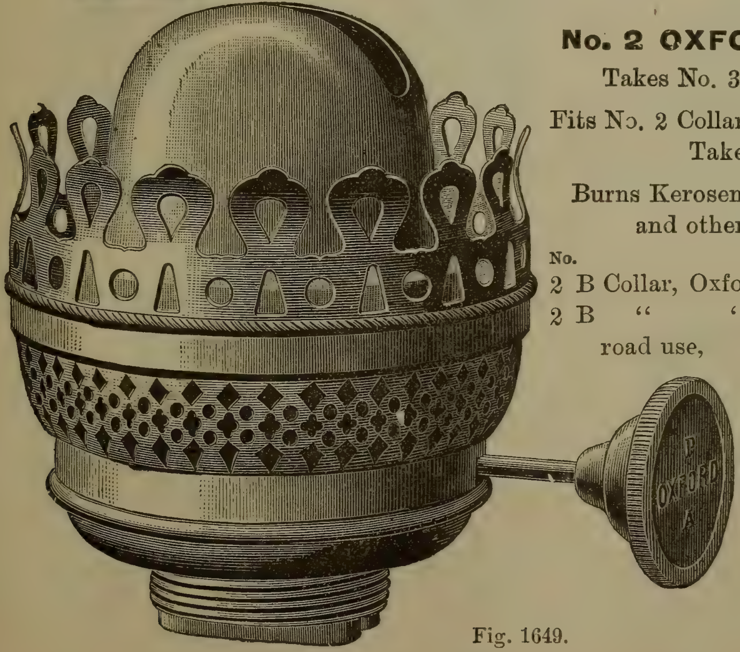
No. 2 OXFORD BURNER.

Takes No. 3 Dual Chimney

Fits No. 2 Collar.
Takes No. 3 Dual Wick.

Burns Kerosene, Mineral Sperm and other heavy Oils.

No.		Per Doz.
2 B	Collar, Oxford,	$5.40
2 B	" " for Railroad use,	6.90



Bronze Finish,
10 Cents Dozen
Extra, Net.

Fig. 1649.

RAILROAD LANTERN LARD OIL BURNERS.

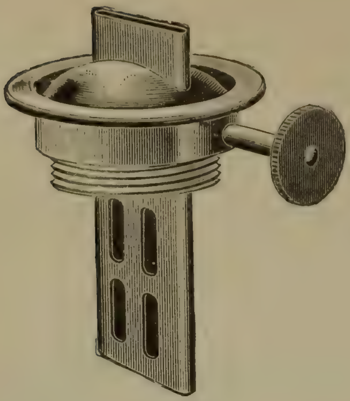


Fig. 1650.

No. 1 RATCHET BURNER.

$\frac{5}{8}$ inch Wick. Lard Oil. Per doz., $0.75.

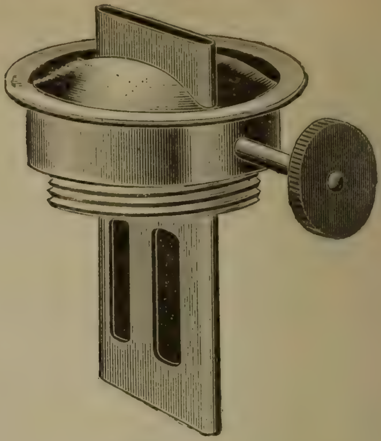


Fig. 1651.

No. 1 EXTRA RATCHET BURNER.

$\frac{7}{8}$ inch Wick. Lard Oil. Per doz , $1.00.

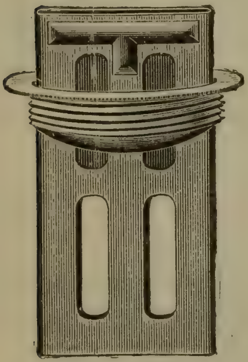


Fig. 1652.

NO. 1 EXTRA FLAT COPPER BURNER.

$\frac{7}{8}$ inch Wick. Lard Oil.
Per doz., $0.75.

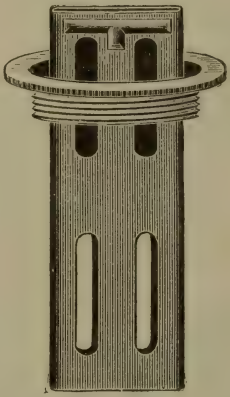


Fig. 1653.

NO. 1 FLAT COPPER BURNER.

$\frac{5}{8}$ inch Wick. Lard Oil.
Per doz., $0.60.

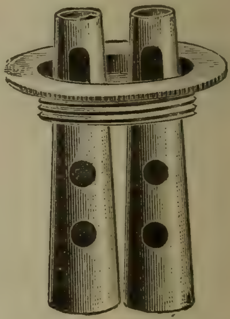


Fig. 1654.

NO. 1 TWO TUBE TIN BURNER.

Lard Oil.
Per doz., $0.35.

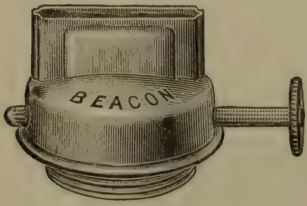


Fig. 1655.

BEACON BURNER.

B Wick, fits A Collar.
Per doz., $1.00.

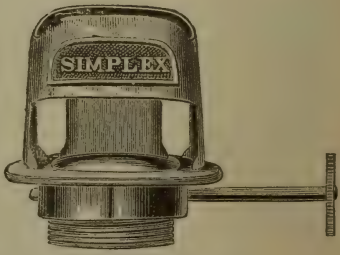


Fig. 1656.

SIMPLEX LANTERN BURNER.

No.	Shaft.	Per Doz.
1 A	Wick, $1\frac{1}{4}$ inches,	$0.90.
2 B	" $2\frac{3}{8}$ "	1.50.

RAILROAD LANTERN KEROSENE BURNERS.

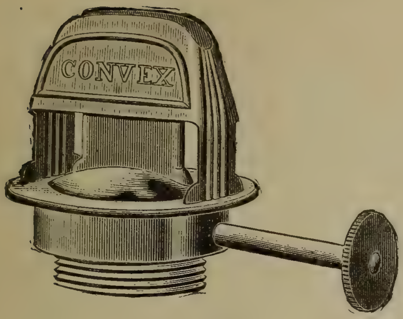


Fig. 1657.

NO. 1, CONVEX BURNER.
⅝ in. Wick, Kerosene, per doz , $0.75.

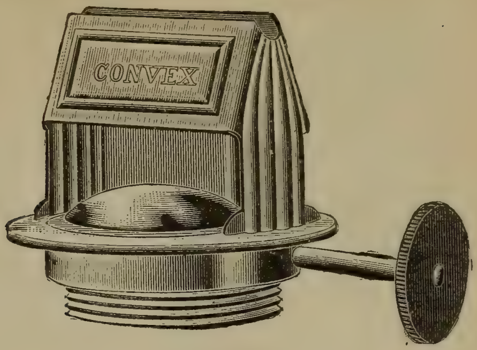


Fig. 1658.

NO. 2, CONVEX BURNER.
⅞ in. Wick, Kerosene, per doz., $1.25.

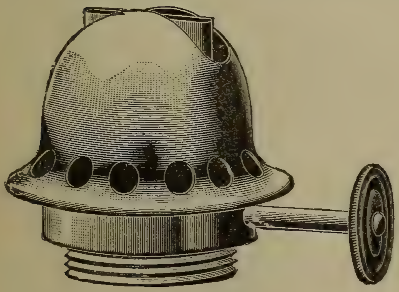


Fig. 1659.

Fig. 1659.

No. 1, "Sangster," ⅝ inch Wick.

Per doz., $0.75.

TUBULAR LANTERN BURNERS.

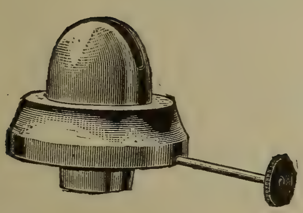


Fig. 1660.

NO. 0, 1-2 INCH TUBULAR BURNER.
For Gem or No. 00 Lantern.

NO. 1, 5-8 INCH TUBULAR BURNER.
For No. 0 Lantern. Per doz., $0.75.

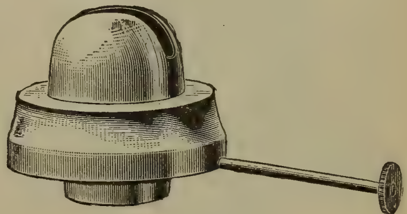


Fig. 1661.

NO. 2, 1 INCH TUBULAR BURNER.
For Nos. 2, 4, 6, 12 and 17 Lanterns.
Per doz., $1.75.

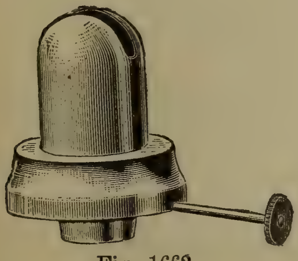


Fig. 1662.

REFLECTOR LAMP BURNER.

Fig. 1662.

No. 1, ⅝ inch High Cone Hood, per doz. . $1.75

BURNERS.

MARCY'S PATENT

HEAVY HINGE BURNER.

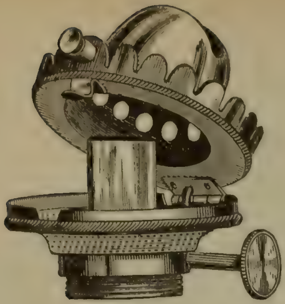


FIG. 1663.

No. 0.	E Wick.	Brass.	Per Dozen		$1.50
" 1.	A "	"	"	"	1.63
" 2.	B "	"	"	"	2.25

SCREW BURNER.

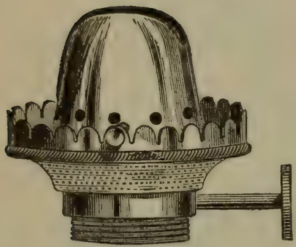


FIG. 1664.

No. 3.	D Wick.	Brass.	Per Dozen	$4.38

All the above Burners take Old Style Lip Chimneys.

VENUS BURNER.

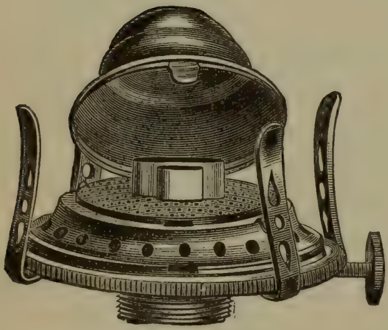


FIG. 1665.

No. 0.	E Wick.	Brass.	Per Dozen		$1.00
" 1.	A "	"	"	"	1.13
" 2.	B "	"	"	"	1.50

Takes Sun Chimney.

CALENDER LANTERN BURNER.

WITH LONG OR SHORT SHAFTS.

BRASS.

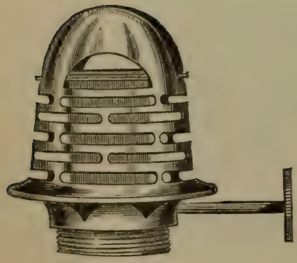


FIG. 1667.

No.	Wick.	Length of Shaft.	Per Dozen.
00	E	$1\frac{5}{8}$	$1.00
0	E	$1\frac{5}{8}$	1.00
1	A	$1\frac{3}{4}$	1.13

Special Lengths of Shafts made to order.

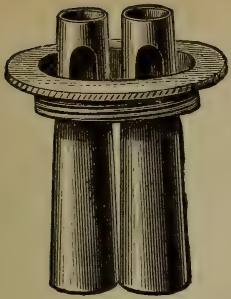


FIG. 1668.

OIL SCREWS, TUBED.

FOR BURNING LARD OIL.

No.	Thread Diameter.			Per 1000. Tin Tube.	Per 1000. Copper Tube.
3	¾ inch,		1 Tube,	$16.50	$27.00
3	¾ "		2 "	18.00	28.50
1	⅞ "	Kerosene Size,	1 "	18.00	27.00
1	⅞ "	" "	2 "	18.75	30.00
1	1 "	Common,	2 "	21.00	
1	1 "	"	3 "	22.50	
1	1⅛ "	Extra Size,	2 "	27.00	52.50
2	1¼ "	Kerosene Size,	2 "	30.00	60.00

Two hundred and fifty in a box.

BRASS TORCH BURNERS, WITH HOOPS.

No.		Length of Tube. 1½-inch.	1¾-inch.	2-inch.	2½-inch.	3-inch.	Brass. Per 1000.
1	Kerosene Size,	$32.50	36.00	36.00	45.00	54.00	"
1	Extra,	37.80	41.40	41.40	50.40	59.40	"
4		22.50	(With Tin Tube.)				

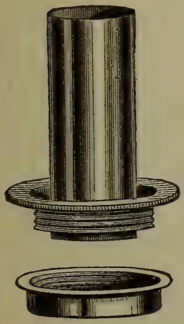


FIG. 1669.

FEEDER SCREWS AND HOOPS.

No.			Per 1000.
1	Feeder Screws and Solid Hoops, Diam.	½ inch,	$13.50
2	" " " " " "	9/16 "	14.25
1	" " " Butted " "	½ "	11.25
2	" " " " " "	9/16 "	12.00

Five hundred in a box.

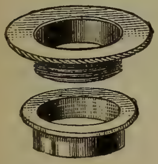


FIG. 1670.
Solid Hoop.

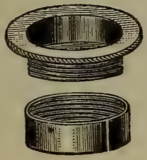


FIG. 1671.
Butted Hoop.

OILER SCREWS AND HOOPS.

No.		Per 1000. Oiler Hoop.	Per 1000. Oiler Screw.
0	Diameter 5/16 inch,	$7.00	$9.00
1	" ⅜ "	8.00	10.00
2	" ½ "	10.00	12.00
3	" ⅝ "	12.00	14.00

Five hundred in a box.

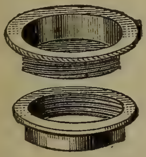


FIG. 1672.

OIL SCREWS.

No.			Per 1000.
1	Oil Screws, Extra, Blank or Pierced,	Diameter 1⅛ inch,	$18.00
1	" " Common Size, Blank or Pierced,	" 1 "	16.50
1	" " Kerosene " " " "	" ⅞ "	15.00
2	" " " " " " "	" 1¼ "	18 00
3	" " " " "	" ¾ "	13.50
4	" " " " "	" 11/16 "	12.00
1	Feeder Screws, " " "	" ½ "	7.15
2	" " " " "	" 9/16 "	7.90

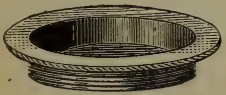


FIG. 1673.

Five hundred in a box.

NAVY SCREWS AND HOOPS.

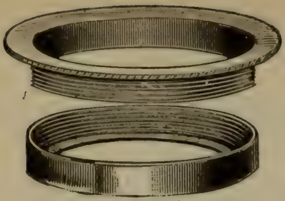


Fig. 1674.

Diameter of Threads.	In Box.	Per 1000.	Screws only.	Hoops only.	Plates only.
$1\frac{3}{8}$ inch	250	“	$40.00	$25.00	$9.00

Plates can be furnished with 3, 4 or 5 Copper Tubes.

BUTTED HOOPS.

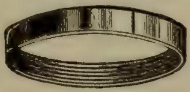


Fig. 1675.

SOLID HOOPS.

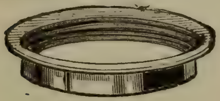


Fig. 1676.

No.		Thread Diam.	Per 1000. Butted Hoop.	Per 1000. Solid Hoop.
1	Hoops, Extra Size,	$1\frac{1}{8}$ inch	$11.25	$12.00
1	“ Common Size,	$\frac{15}{16}$ “	10.50	9.00
1	“ Kerosene “	$\frac{7}{8}$ “	7.50	7.50
2	“ “ “	$1\frac{1}{4}$ “	. .	15.00
3	“	$\frac{3}{4}$ “	5.25	. .
4	“ Feeder,	$\frac{11}{16}$ “	. .	7.50
4	“ (R)	$\frac{11}{16}$ “	. .	12.00
1	“ Feeder,	$\frac{1}{2}$ “	4.15	6.25
2	“ “	$\frac{9}{16}$ “	4.15	6.25

Five hundred in a box.

REDUCING COLLARS.

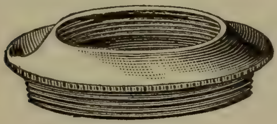


Fig 1677.

No.	Diameter of Threads.	Brass, Per Doz.
2 (B) to 1 (A),	$1\frac{3}{16}$ to $\frac{7}{8}$ inch,	$0.45
3 (D) to 1 (A),	$1\frac{3}{4}$ to $\frac{7}{8}$ “	.90
3 (D) to 2 (B),	$1\frac{3}{4}$ to $1\frac{1}{4}$ “	.90

One-half gross in a box.

EXPANDING SCREWS.

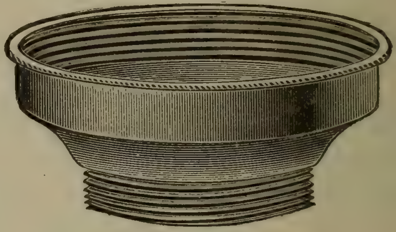


Fig. 1678.

No.	Diameter of Threads.	Brass, Per Doz.
2 (B) to 3 (D),	$1\frac{1}{8}$ to $1\frac{3}{4}$ inch	$0.90
1 (A) to 2 (B),	$\frac{1}{2}$ to $1\frac{3}{16}$ “	.45

One-half gross in a box.

LANTERN HOOP.

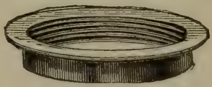


Fig. 1679.

No. 1, Solid Lantern Hoop,	. . . . . .	Per 1000, $5.00
No. 1, Ex. “ “	. . . . . .	“ “ 8.00
No. 2, “ “	. . . . . .	“ “ 10.00

BEADED LAMP COLLARS.

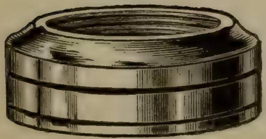


Fig. 1680.

No. 2 or B Collar.

No.	Diameter of Threads.		Brass, Per Dozen. Light.	Brass, Per Dozen. Heavy.
0 (E)	$1\frac{1}{4}$ inch		$0.14	
0 (A)	$1\frac{1}{2}$ “		.23	
1 (A)	$1\frac{3}{8}$ “		.14	$0.20
2 (B)	$1\frac{3}{4}$ “		.23	.33
3 (D)	$2\frac{1}{4}$ “		.60	.75
2 (B)	$1\frac{3}{4}$ “	for A Burner,	.45	.45
3 (D)	$2\frac{1}{4}$ “	“ B “	.75	.75

PORCELAIN SHADES OR CONES.

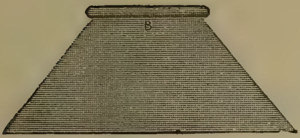


Fig. 1681.

PLAIN TOP.

4⅝x9 inch Cones, Plain Top, per doz.
5x10 " " " "
5x10 " Domes, " "

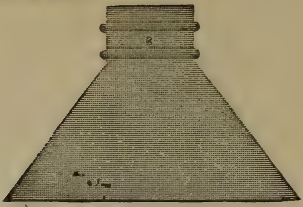


Fig. 1682.

RING TOP.

10 inch Cones, Ring Top, per doz.
11 " " " "
10 " Domes, " "

LANTERN GLOBES.

No. 39. White, per dozen	$1.25
" 39. Green, "	7.00
" 39. Blue, "	7.00
" 39. Ruby, "	11.00
Conductors' Globe, White, per dozen	3.00
" " Half Colored, per dozen	30.00

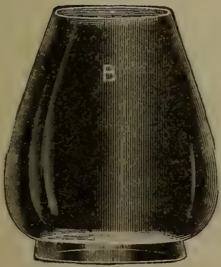


Fig. 1683.

Fig. 1684½.

NO. 0 TUBULAR.

Packed 5 dozen in bbl.

White, per dozen	$0.50
Green, "	3.00
Blue, "	3.00
Ruby, "	2.20

Fig. 1684.

NO. 1 TUBULAR.

Packed 4½ dozen in bbl.

White, per dozen	$1.00
Green, "	3.50
Blue, "	3.50
Ruby, "	4.00

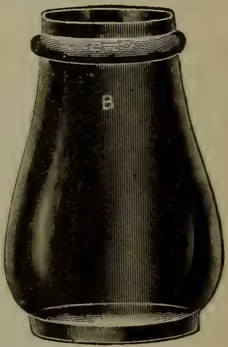


Fig. 1684.

LAKE AND RIVER GLOBES.

Old Style.

White, per dozen	$2.00
Green "	10 00
Ruby, "	14.00
Blue, "	10.00

New Style.

White, per dozen	$2 00
Green, "	10.00
Ruby, "	14.00
Blue, "	10.00

For measurements of Globes see page 483.

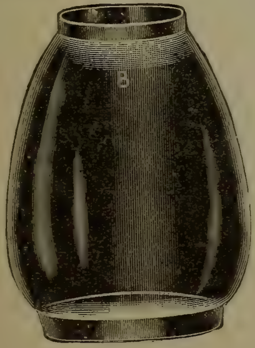


Fig. 1685.
No. 7, Old Style Lake and River Globe.

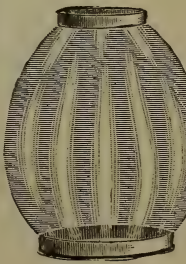


Fig. 1686.
No. 7, (New) Government Pattern Globe.

BEST FLINT HAND-MADE CONDUCTORS' LANTERN GLOBES.

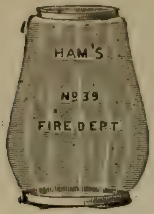


Fig. 1687.

NEW NO. 39, MILL AND FIRE DEPT. GLOBE.

	Per Doz.
White, ...	$2.00

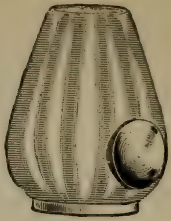


Fig. 1688.

NO. 39, R. R. GLOBE.

With Bull's Eye.

	Per Doz.
White, ...	$2.00

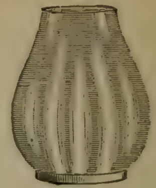


Fig. 1689.

NO. 1, "QUEEN" CONDUCTOR GLOBE.

	Per Doz.
White, . . .	$6.00
Ruby, Green or Blue,	18.00
½ Ruby, Green or Blue,	30.00

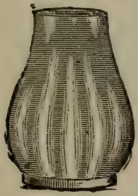


Fig. 1690.

NO. 3, COND'R GLOBE.

	Per Doz.
White, ...	$6.00
Ruby, ...	18.00
Green or Blue, . .	18.00
½ Ruby, Green or Blue,	30.00

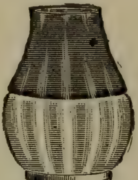


Fig. 1691.

NO. 3, COND'R GLOBE.

One-Half Colored,
Per doz., $30.00.

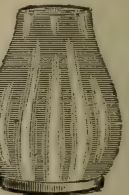


Fig. 1692.

NO. 6, COND'R GLOBE.

	Per Doz.
White, ...	$6.00
Ruby, ...	18.00
Green or Blue, . .	18.00
½ Ruby, Green or Blue,	30.00

STREET AND HANGING LAMP GLOBES.

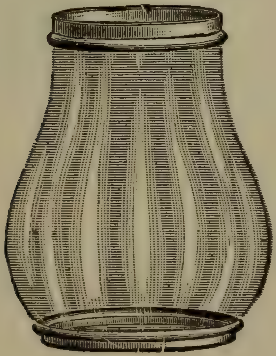


Fig. 1693.

NO. 9, STREET AND HANGING LAMP GLOBE.

	Per Doz.		Per Doz.
White, . .	$6.40	Blue, . .	$50.00
Green, . .	50.00	Ruby, . .	60.00

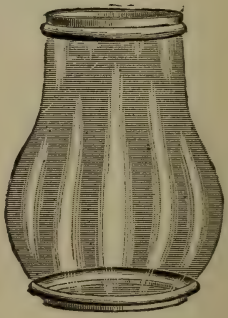


Fig. 1694.

NO. 4. HANGING LAMP GLOBE.

	Per Doz.
White, ...	$4.80

For measurements of Globes see page 483.

TUBULAR LANTERN GLOBES.

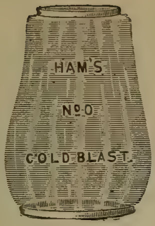


Fig. 1695.

No. 0, "Cold Blast" Tubular Globe.

White, . Per doz., $1.40

. Packed 4½ doz. in bbl.

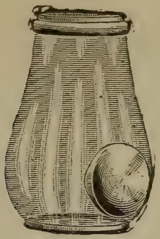


Fig. 1696.

No. 0, Tubular "Bull's Eye" Globe.

White, . Per doz., $1.92

Packed 5 doz. in bbl.

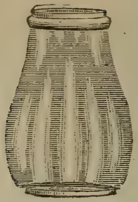


Fig. 1697.

No. 00 or "Gem" Globe.

Per doz., $0.90

Packed 8 doz. in bbl.

MEASUREMENTS OF GLOBES.

OUTSIDE MEASUREMENTS.

	Top.	Bottom.	Height.	Bulge.
Figure No. 1684½,	$2\frac{13}{16}$ in.	$3\frac{3}{8}$ in.	$6\frac{5}{8}$ in.	$4\frac{1}{2}$ in.
" " 1695,	$2\frac{3}{4}$ "	$3\frac{5}{16}$ "	$6\frac{3}{4}$ "	$4\frac{3}{4}$ "
" " 1696,	$2\frac{13}{16}$ "	$3\frac{3}{8}$ "	$6\frac{5}{8}$ "	$4\frac{1}{2}$ "
" " 1697,	$2\frac{1}{4}$ "	$2\frac{3}{4}$ "	$5\frac{1}{2}$ "	$3\frac{7}{8}$ "
" " 1684,	$2\frac{3}{4}$ "	$3\frac{1}{2}$ "	$7\frac{1}{8}$ "	$4\frac{1}{2}$ "
" " 1693,	$5\frac{5}{8}$ "	$6\frac{1}{8}$ "	$10\frac{1}{8}$ "	$8\frac{5}{8}$ "
" " 1694,	$4\frac{1}{4}$ "	5 "	$8\frac{7}{8}$ "	$6\frac{7}{8}$ "
" " 1683,	$2\frac{3}{8}$ "	$3\frac{1}{4}$ "	$5\frac{5}{8}$ "	$4\frac{5}{8}$ "
" " 1687,	$2\frac{1}{2}$ "	$3\frac{1}{2}$ "	$5\frac{7}{8}$ "	$4\frac{3}{8}$ "
" " 1688,	$2\frac{3}{8}$ "	$3\frac{1}{4}$ "	$5\frac{5}{8}$ "	$4\frac{5}{8}$ "
" " 1689,	$2\frac{1}{4}$ "	$2\frac{9}{16}$ "	5 "	$4\frac{1}{16}$ "
" " 1690,	$2\frac{1}{8}$ "	$2\frac{5}{8}$ "	5 "	$3\frac{9}{16}$ "
" " 1691,	$2\frac{1}{8}$ "	$2\frac{5}{8}$ "	5 "	$3\frac{9}{16}$ "
" " 1692,	$2\frac{3}{16}$ "	$2\frac{13}{16}$ "	$5\frac{1}{8}$ "	$3\frac{3}{4}$ "
" " 1685,	$2\frac{3}{4}$ "	$3\frac{7}{8}$ "	$6\frac{3}{4}$ "	5 "
" " 1686,	$2\frac{3}{4}$ "	4 "	$7\frac{1}{8}$ "	6 "

Globes Illustrated on Pages 481, 482 and above.

EXTRAS FOR LANTERNS.

Pages 492-493.

Extra Pots, with No. 1 or No. 1 Extra Tube Burners, ...	Per dozen,	$4.50
Glass Founts—Lanterns, Frames, or Extra Pots, when furnished with Glass Founts,	"	1.20
Spike Bottom—Lanterns, Frames or Extra Pots, when furnished with Spike Bottom, add	"	1.00
Numbering Frames—Lanterns or Frames when Numbered, add	"	.50

BURNERS.

When other than the No. 1 or No. 1 Extra Tube Burners are desired, add to prices on Pages 492-493 Frames or Extra Pots as follows:

For No. 1 Lard Oil Ratchet Burner, ...	Per dozen,	$0.50
" No. 1 Extra Lard Oil Ratchet Burner, ...	"	1.00
" Beacon Burner, ...	"	1.00

CHIMNEYS.

HAM'S SPECIAL HEADLIGHT.

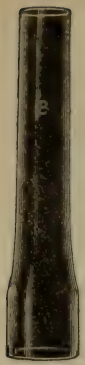


Fig. 1698.

Diameter of Bottom	$1\frac{15}{16}$ inches
Height	10 "
Per dozen	$

Packed as follows:

In boxes of 3, 6 or 12 dozen.

HALL HEADLIGHT.

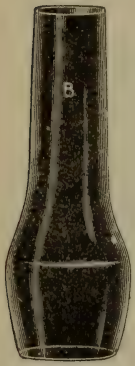


Fig. 1699.

Size	No. 1	No. 2
Diameter of Bottom	$2\frac{1}{2}$ inches	$2\frac{3}{4}$ inches
Diameter of Bulb	$2\frac{7}{8}$ "	$3\frac{3}{8}$ "
Height	10 "	10 "
Per dozen	$	$

Packed as follows:

In boxes of 3 or 6 dozen.

STANDARD HEADLIGHT.

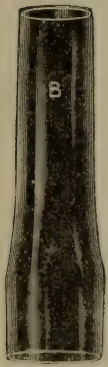


Fig. 1700.

Size	No. 1	No. 2
Diameter of Bottom	$2\frac{1}{2}$ inches	$2\frac{3}{4}$ inches
Diameter of Bulb	$2\frac{7}{8}$ "	3 "
Height	10 "	10 "
Per dozen	$	$

Packed as follows:

In boxes of 3 or 6 dozen.

Outside dimensions are given for all measurements.

MAGNUM CHIMNEYS.

Diameter of Base	$3\frac{7}{8}$ inches
" " Bulb	$5\frac{1}{4}$ "
" " Top	$3\frac{1}{4}$ "
Height	$9\frac{3}{4}$ "
Per dozen	$

Packed 2 dozen in barrel.

CHIMNEYS.

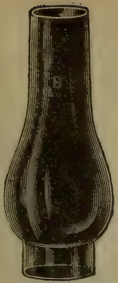


Fig. 1701.

No. 1 Rochester
“ 1 Miller
“ 1 Juno
“ 1 B. & H.
“ 6 Macbeth

No. 1 Niagara
“ 1 Royal
“ 1 Meteor
“ 1 Victor
“ 1 Keystone

No. 1 Trenton
“ 1 Meriden
“ 1 Bristol
“ 1 Haida

Diameter of Bottom,	2 inches
Diameter of Bulb,	3 “
Diameter of Top,	$1\frac{11}{16}$ “
Height,	8 “
Price,	Per doz., $

Packed as follows:
In boxes of 3, 6 or 12 dozen, and barrels of 11 dozen.

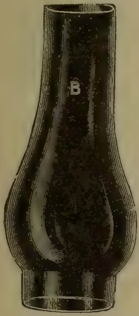


Fig. 1702.

No. 2 Rochester
“ 2 Miller
“ 2 Juno
“ 2 Royal
“ 2 Victor
“ 2 Meteor
“ 2 Niagara
“ 8 Macbeth

No. 2 Wheeling
“ 2 Gladstone
“ 2 Wellington
“ 2 Meriden
“ 2 Bristol
“ 2 Haida
“ 2 Pittsburg

No. 2 Parker
“ 2 American
“ 2 Trenton
“ 2 Rival
“ 2 Admiral
“ 2 Manhattan Smokeless

Diameter of Bottom,	$2\frac{5}{8}$ inches
Diameter of Bulb,	$3\frac{5}{8}$ “
Diameter of Top,	$1\frac{7}{8}$ “
Height,	9 “
Price,	Per doz., $

Packed as follows:
In boxes of 3 or 6 dozen, and barrels of 7 dozen.

NO. 2 ROCHESTER, EXTRA LONG.

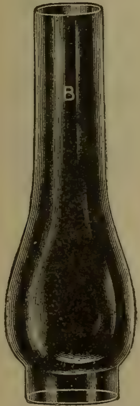


Fig. 1703.

No. 2 Niagara, extra long. No. 2 B. & H., 10 inches high.

Diameter of Bottom,	$2\frac{5}{8}$ inches
Diameter of Bulb,	$3\frac{1}{2}$ “
Diameter of Top,	$1\frac{7}{8}$ “
Height,	$10\frac{1}{2}$, 12 and 14 “

To be used with Globes.

Price, ... Per doz., $

Packed as follows:
$10\frac{1}{2}$ inch, in boxes of 3 or 6 dozen, and in barrels of 6 dozen.
12 “ “ 3 or 6 “ “ “ 5 “
14 “ “ 3 or 6 “ “ “ 4 “

SUN BULB.

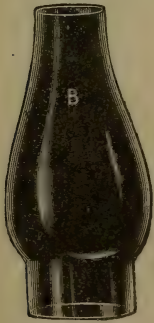


Fig. 1704.

For all Sun Burners.

Size,	No. 0	No. 1	No. 2
Diameter of Bottom,	2 inches	$2\frac{1}{2}$ inches	3 inches
Diameter of Bulb,	$3\frac{1}{4}$ “	$3\frac{5}{8}$ “	4 “
Height,	$6\frac{3}{4}$ “	$7\frac{1}{2}$ “	$8\frac{1}{2}$ “
	Per doz., $	Per doz., $	Per doz., $

Packed as follows:
No. 0, in boxes of 3, 6 or 12 dozen.
“ 1, “ of 3, 6 or 12 “
“ 2, “ of 3 or 6 “

Outside dimensions are given for all measurements above.

CHIMNEYS.

ELECTRIC.

For Electric and Banner Lamps. Grand, Little Giant, Sun Duplex, Climax and other No. 3 Wick Burners.

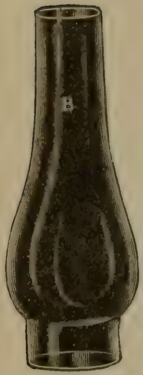


Fig. 1705.

Size	No. 1	No. 2
Diameter of Bottom	2½ inches	3 inches
" " Bulb	3½ "	4 "
Height	8¾ "	10 "
Per dozen	$	$

Packed as follows:

No. 1, in boxes of 3, 6 or 12 dozen, and barrels of 7½ dozen.
" 2, in " of 3 or 6 " " of 5 "

NO. 2 ELECTRIC FOR GLOBE.

Diameter of Bottom	3 inches
Diameter of Bulb	3½ "
Height regular	10 "
Height extra long	12 "
Per dozen	$

Packed as follows:

10 inch in boxes of 3 or 6 dozen, and barrels of 6 dozen.
12 " in " 3 or 6 " " of 5 "

BELGIAN.

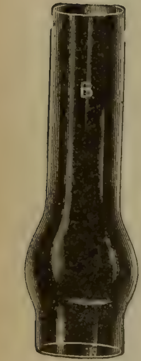


Fig. 1706.

No. 1 Belgian.	No. 00 Belgian.
" 1 Liberty.	" 00 Liberty.
" 2 Plumwood.	" 3 Plumwood.
" 2 Dresden.	" 3 Dresden.
" 4 B. & H. Radiant.	" 5 B. & H. Radiant.

Size	No. 1	No. 00
Diameter of Bottom	2½ inches	3 inches
Diameter of Bulb	3 "	3½ "
Height	10¾ "	12 "
Per dozen	$	$

May be cut to any other length desired.

Packed as follows:

No. 1 in boxes of 3 or 6 dozen, and barrels of 6 dozen.
" 00 in " of 3 or 6 " " " 4 "

BUFFALO HEADLIGHT.

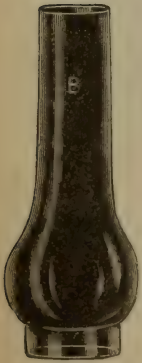


Fig. 1707.

Diameter of Bottom	2¾ inches
Diameter of Bulb	3¾ "
Height	10 "
Per dozen	$

EUREKA HEADLIGHT.

Diameter of Bottom	2¾ inches
Diameter of Bulb	3¼ "
Height	10 "
Per dozen	$

Packed as follows:

In boxes of 3 or 6 dozen.

Outside dimensions are given for all measurements.

CHIMNEYS.

DUAL AND LIP.

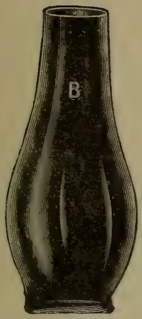


Fig. 1708.

No. 0, 1, 2 and 3 Lip
" 0, 1, 2 and 3 Ives

No. 0, 1 and 2 Dual
" 0, 1 and 2 Richmond

Size	No. 0.	No. 1.	No. 2.	No. 3 Lip.
Diameter of Bottom . .	$1\frac{3}{8}$ ins.	$1\frac{5}{8}$ ins.	$2\frac{1}{8}$ ins.	$2\frac{5}{8}$ ins.
Diameter of Bulb . .	$2\frac{5}{8}$ "	3 "	$3\frac{1}{2}$ "	4 "
Height	6 "	7 "	8 "	$9\frac{1}{4}$ "
Per dozen	$	$	$	$

For special orders these chimneys are made of any length or diameter of bulb required. Always give dimensions wanted.

Packed as follows:

No. 0 in boxes of 3, 6 or 12 dozen.
" 1 in " of 3, 6 or 12 "
" 2 in " of 3 or 6 "
" 3 in " of 3 or 6 "

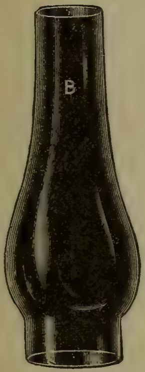


Fig. 1709.

NO. 3 DUAL.

For Railroad Car Lamps.

No. 3 Dual. No. 3 Hicks & Smith. No. 3 Oxford.

Diameter of Bottom	$2\frac{1}{2}$ inches
Diameter of Bulb	$3\frac{5}{8}$ "
Height	$10\frac{1}{8}$ "
Per dozen	$

Packed as follows:

In boxes of 3 or 6 dozen.

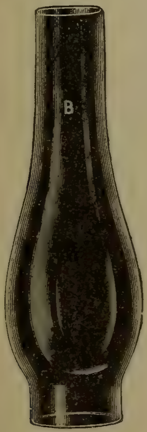


Fig. 1710.

NO. 2 DUPLEX.

Round or Oval.

For American and Imported Duplex Burners.

Diameter of Bottom	$2\frac{1}{2}$ inches
Diameter of Bulb	$3\frac{1}{2}$ "
Height	10 "
Per dozen	$

Packed as follows:

In boxes of 3 or 6 dozen, and barrels of 6 dozen.

Outside dimensions are given for all measurements.

"MICA" HEADLIGHT CHIMNEYS.

Price, per gross $37.50

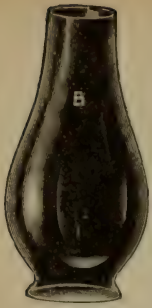


Fig. 1711.

CHIMNEYS.

ROUND OR OVAL, FOR SUN HINGE BURNERS.

Size	No. 0	No. 1	No. 2	No 3
Diameter of Bottom .	$1\frac{7}{8}$ ins.	$2\frac{3}{8}$ ins.	$2\frac{5}{8}$ ins.	$3\frac{1}{4}$ ins
Diameter of Bulb . .	3 "	$3\frac{1}{2}$ "	$3\frac{3}{4}$ "	$4\frac{1}{2}$ "
Height	6 "	$7\frac{1}{8}$ "	$8\frac{1}{8}$ "	$9\frac{1}{4}$ "
Special Size for Globe Diameter of Bulb . .	. .	. .	$3\frac{1}{2}$ " "	
Price per dozen . .	$	$	$	$

Packed as follows:

No. 0, in boxes of 3, 6 or 12 dozen.

" 1, in " of 3, 6 or 12 "

No. 2, in boxes of 3 or 6 dozen.

" 3, in " of 3 or 6 "

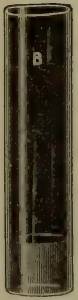


Fig. 1712.

FOR GAS BURNERS.

Welsbach.

Diameter . $1\frac{15}{16}$ and 2 inches
Length, 5, 6, 7, 8, 9 and 10 "
Made with either plain or Frosted Bottom.
Per dozen . . $

Packed as follows:
In boxes of 3, 6 or 12 dozen.

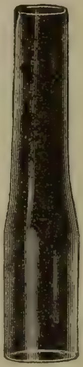


Fig. 1713.

MOEHRING.

For Moehring and Harvard Burners.

Diameter of Bottom . 2 inches
Diameter of Bulb . $2\frac{1}{4}$ "
Height . $5\frac{1}{2}$, $7\frac{1}{2}$ or 10 "
Per dozen . . $

Packed as follows:
In boxes of 3, 6 or 12 dozen.

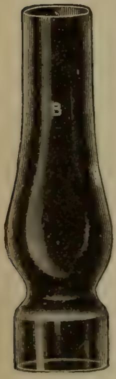


Fig. 1714.

NO. 11

POSTAL CAR.

Diameter of Bottom, $2\frac{1}{2}$ inches
Diameter of Bulb . $2\frac{5}{8}$ "
Height . . . 12 "
Per dozen . . $

Packed as follows:
In boxes of 3 or 6 dozen.

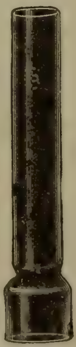


Fig. 1715.

STUDENT.

Size.	Princess or Victor.	No. 1 Student. No. 1 Perfection	No. 2 Student or Brilliant
Diam. of Bottom	$1\frac{5}{16}$ in.	$1\frac{7}{8}$ in.	$1\frac{3}{4}$ in.
Diam. of Top .	1 in.	$1\frac{3}{8}$ in.	$1\frac{1}{4}$ in.
Height .	$7\frac{1}{2}$ "	$10\frac{1}{2}$ "	$10\frac{1}{2}$ "
Per doz.	$	$	$

Packed as follows:
In boxes of 3, 6 or 12 dozen.

Outside dimensions are given for all measurements.

WICKS.

No.	0 or E.	1 or A.	2 or B.	3 or D.
Width, inches,	$\frac{3}{8}$	$\frac{5}{8}$	1	1$\frac{1}{2}$
Per gross,	$0.60	.75	1.10	1.75

Brilliant, Argand and Crystal Light,	Per gross,	$2.00
Dietz $\frac{3}{4}$ inch wide, 8 inches long,	“ “	.90
B. Wick, Double Thick,	“ “	2.50

The above Wick in 32-yard pieces at same price.

D. Dual, 10 inches long,	Per gross,	$3.00
No. 3, Moehring, 2$\frac{3}{4}$ inches wide,	“ “	3.00
Duplex and Oxford, 10 inches long,	“ “	3.00
Nos. 1 and 2 German Student,	“ “	1.10
Gem, $\frac{1}{2}$ inch wide,	“ “	.60
No. 1 Rochester,	“ “	1.25
No. 2 Rochester,	“ “	1.75
No. 3 Rochester,	“ “	6.00
No. 1 Banner,	“ “	1.25
No. 2 Banner,	“ “	2.00
No. 3 Banner,	“ “	4.75
No. 1 Niagara, 7$\frac{1}{2}$ inches long,	“ “	2.75
No. 2 Niagara, 8 inches long,	“ “	9.50
No. 1 Belgian,	“ “	3.00
No. 00 Belgian,	“ “	3.50
No. 2 Electric,	“ “	2.50
No. 2 Miller,	“ “	2.00
Sun Duplex,	“ “	1.00
Eureka,	“ “	1.25

HEADLIGHT WICK (FELT).

Width, inches,	1$\frac{1}{16}$	1$\frac{1}{8}$	1$\frac{1}{4}$	1$\frac{1}{2}$
Per gross,	$7.00	7.00	7.50	8.00

CANDLE WICK.

No. 2,	Per pound, $0.18	Best,	Per pound, $0.20

WASTE.

WHITE COTTON.		COLORED COTTON.	
Best Cop Machined,	Per lb., $	“A,” Best Machined,	Per lb., $
No. 1, “	“	“B,” “ “	“
“ 2, “	“	“C,” “ “	“
“ 3, “	“	3 “ “	“

WOOL PACKING.

Carpet Thrums	No. 1	No. 2 Extra	No. 3
Per lb., $	Per lb., $	Per lb., $	Per lb., $

Waste put up in 100, 250 and 500 lb. Bales.

We have all grades of Wiping and Packing Waste.

Prices quoted and samples sent on application.

HAM'S TWO-PIECED TUBE TIN TUBULAR LANTERNS.

NO. 0, HANDY.

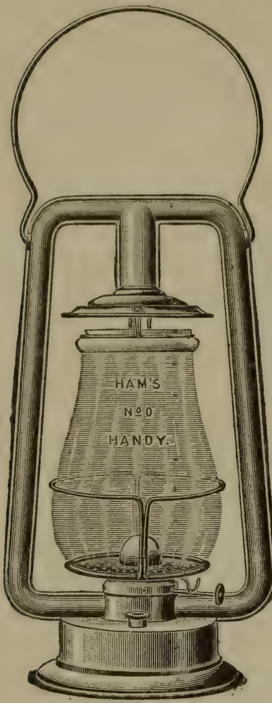


Fig. 1716.

PLAIN TIN ONLY.

	Price, Per Doz.
With White Globe, . .	$9.00
" Ruby " . . .	12.00
" Green or Blue Globe, .	12.00

Has No. 1 Burner, $\frac{5}{8}$ inch Wick,
No. 0 Globe.

Adapted for contractors, and in cities about sewers, etc.

Also used with Ruby Globe as a guard lantern.

NO. 0 AND NO. 2, SIDE SPRING SAFETY.

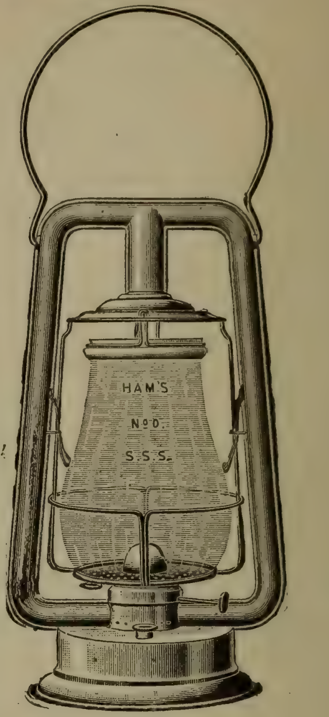


Fig. 1717.

TIN TUBULAR.

No. 0—Glass Fount.

	Price, Per Doz.
With White Globe, . .	$13.00
" Ruby " . .	16.00
" Green or Blue Globe,	16.00

Has No. 1 Burner, $\frac{5}{8}$ inch Wick,
No. 0 Globe.

No. 2.

	Price, Per Doz.
With White Globe, . .	$13.00
" Ruby " . .	16.00
" Green or Blue Globe,	16.00

Has No. 2 Burner, 1 inch Wick,
No. 0 Globe.

Fig. 1716 packed 1 doz. cases, net weight 20 lbs., gross weight 32 lbs.
Fig. 1717 " 1 " " " " No. 0, 21 lbs., gross weight 34 lbs.
Fig. 1717 " 1 " " " " No. 2, 23 lbs., " " 39 lbs.

Fig. 1717 is also made copper-plated, brass-plated, solid brass and solid brass nickel-plated.

HAM'S TWO-PIECED TUBE TIN TUBULAR LANTERNS.

No. 0 and No. 2.

CLIPPER LIFT.

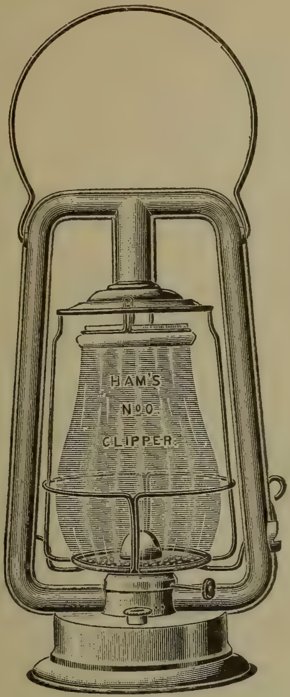


Fig. 1718.

TIN TUBULAR.

No. 0.	Per Dozen
With White Globe	$9.50
" Ruby "	12.50
" Green or Blue	12.50

Has No. 1 Burner, ⅝-inch Wick.
No. 0 Globe.

No. 2.	Per Dozen
With White Globe	$13.00
" Ruby "	16.00
" Green or Blue	16.00

Has No. 2 burner, 1-inch wick.
No. 0 Globe.

No. 1 and No. 2.

COLD BLAST.

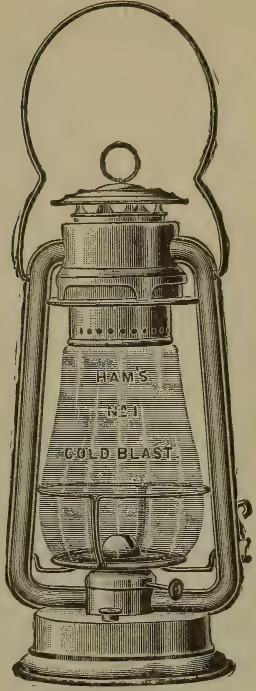


Fig. 1719.

TIN TUBULAR.

No. 1.	Per Dozen
With White Globe	$13.50
" Ruby "	16.50
" Green or Blue	16.50

Has No. 1 Burner, ⅝-inch Wick.
No. 0 "Cold Blast" Globe.

No. 2.	Per Dozen
With White Globe	$16.00
" Ruby "	19.00
" Green or Blue	19.00

Has No. 2 Burner, 1-inch Wick.
No. 0 "Cold Blast" Globe.

Fig. 1718 is also made Copper-Plated, Brass-Plated, Solid Brass and Solid Brass Nickel-Plated.

Fig. 1719 is also made Solid Brass and Solid Brass Nickel-Plated.

Fig. 1719 is especially adapted for use in Mills, Lumber Camps and other places where there is considerable dust, as the Burner will not clog up.

Also adapted for the use of Track Walkers

HAM'S STANDARD RAILROAD LANTERNS.

For Lard or Sperm Oil, also Kerosene.

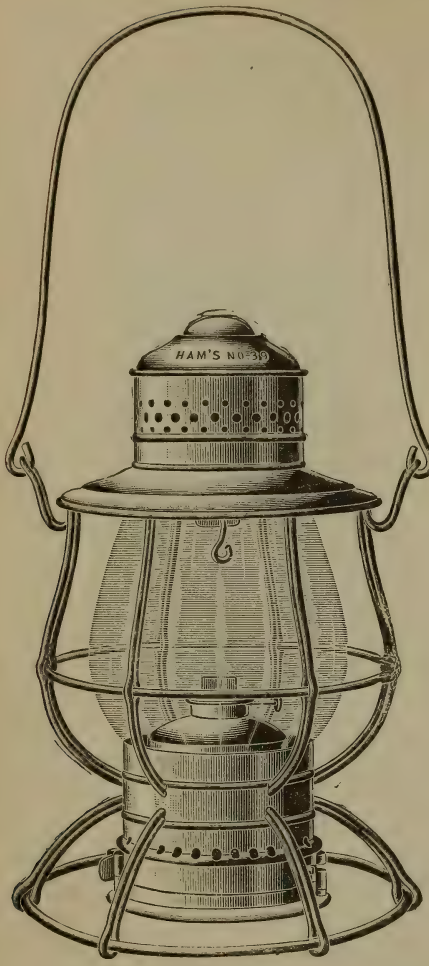


Fig. 1720.
Wire Bottom, Single Guard.

The Bail Stands Automatically Erect.

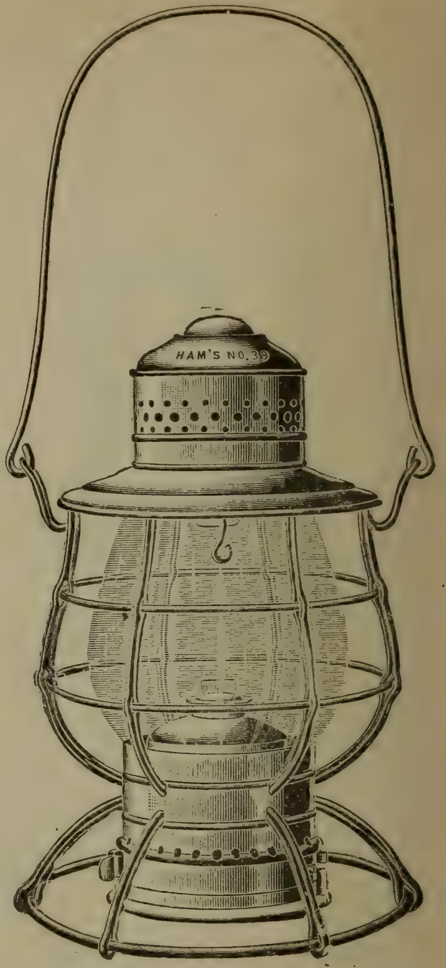


Fig. 1721.
Wire Bottom, Double Guard.

DOUBLE WIRE UPRIGHT (PATENTED).

With White Globe	Per	dozen,	$12.00
" Green or Blue Globe	"	"	16.50
" Ruby Globe	"	"	20.50
Frames only	"	"	10.00

SINGLE WIRE UPRIGHT.

With White Globe	Per	dozen,	$11.00
" Green or Blue Globe	"	"	15.50
" Ruby Globe	"	"	19.50
Frames only	"	"	9.00

The above prices are with No. 1 and No. 2 Extra Tube Burners.

For other Burners see page 483.

Initials of railroads stamped on Frames in lots of 10 dozen or more without extra charge.

HAM'S STANDARD RAILROAD LANTERNS.

For Lard or Sperm Oil, also Kerosene.

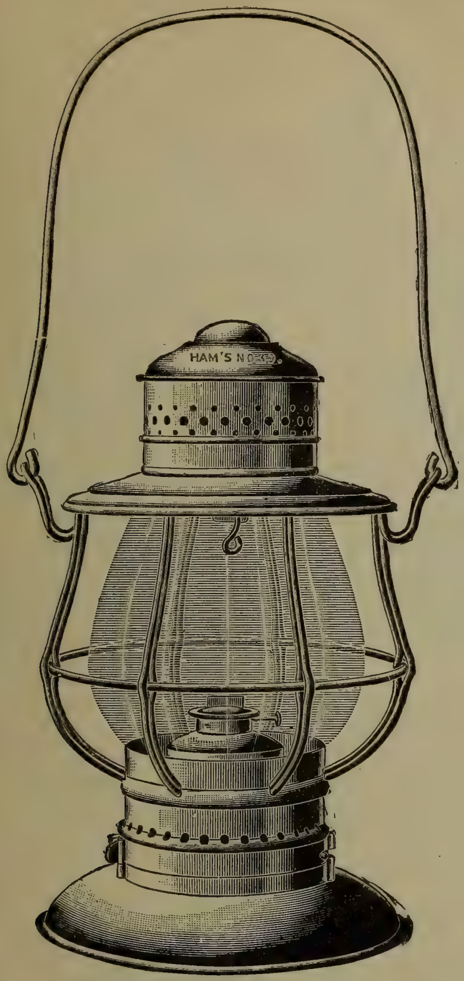


Fig. 1722.
TIN BOTTOM, SINGLE GUARD.

The Bail Stands Automatically Erect.

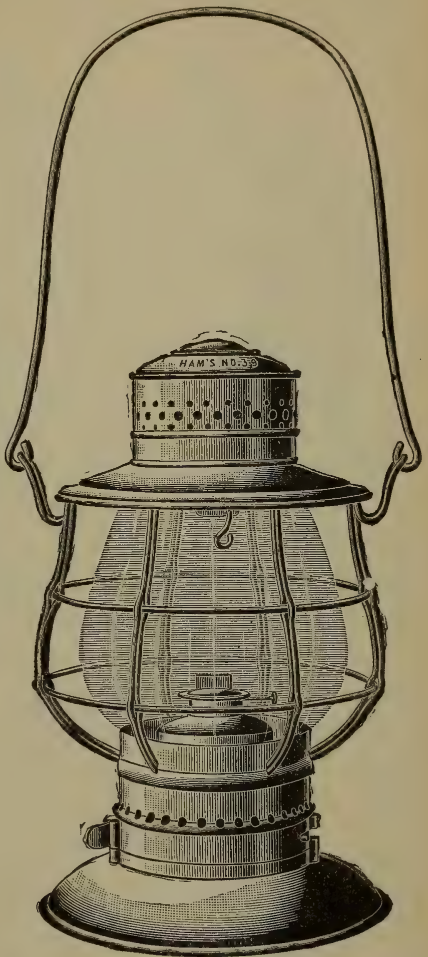


Fig. 1723.
TIN BOTTOM, DOUBLE GUARD.

DOUBLE WIRE UPRIGHT—PATENTED.

Single or Double Guard.

With White Globe	Per dozen,	$11.50
" Green or Blue Globe	"	16.00
" Ruby Globe	"	20.00
Frames only, no Globes	"	9.50

SINGLE WIRE UPRIGHT.

Single or Double Guard.

With White Globe	Per dozen,	$10.50
" Green or Blue Globe	"	15.00
" Ruby Globe	"	19.00
Frames only, no Globes	"	8.50

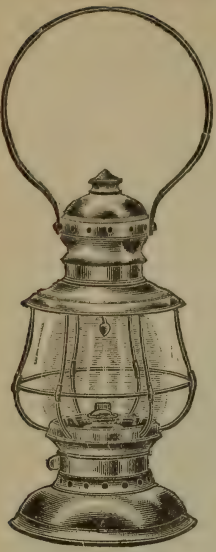
The above prices are with No. 1 or No. 1 Extra Tube Burners.

For other Burners see pages 476 and 477.

Initials of railroads stamped on frames in lots of 10 dozen or more, without extra charge.

HAM'S FINELY FINISHED BRASS AND NICKEL-PLATED
CONDUCTORS' LANTERNS.

For Lard or Sperm Oil.



Made in Solid Brass.

Highly Polished.

Also Finished in

Silver and Gold Plate.

GLOBES,

Best Flint, Hand Made.

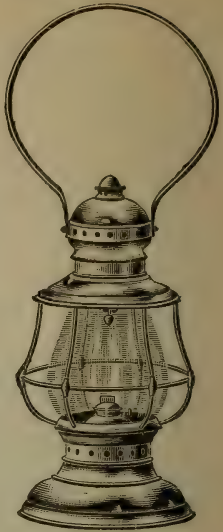
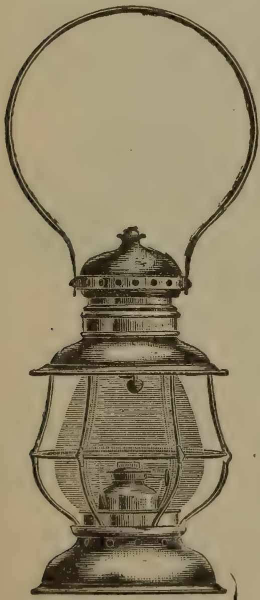


Fig. 1724.
No. 3. BAYONET CATCH.

		Per Dozen
Brass	White Globe	$48.00
" N. P.	" "	54.00
Brass	½ Ruby, Green or Blue .	78.00
" N. P.	" " " " " .	84.00

Fig. 1725.
No. 3. SCREW OIL CUP.

		Per Dozen
Brass	White Globe	$48.00
" N. P.	" "	54.00
Brass	½ Ruby, Green or Blue .	78.00
" N. P.	" " " " " .	84.00



Furnished in

White, Ruby, Green,

Blue, Half Green,

Half Ruby,

Half Blue

Globes.

Made Extra Strong.

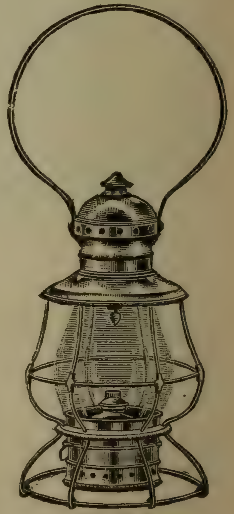


Fig. 1726.
No. 1. SCREW OIL CUP.
(Take Fig. 1689 Globe.)

		Per Dozen
Brass	White Globe	$60.00
" N. P.	" "	66.00
Brass	½ Ruby, Green or Blue .	90.00
" N. P.	" " " " " .	96.00

Fig. 1727.
No. 3. WIRE BOTTOM.

		Per Dozen
Brass	White Globe	$48.00
" N. P.	" "	54.00
Brass	½ Ruby, Green or Blue .	78.00
" N. P.	" " " " " .	84.00

FINELY FINISHED BRASS, NICKEL, SILVER AND GOLD-PLATED CONDUCTORS' LANTERNS.

For Lard or Sperm Oil. Made Extra Strong. Globes, Best Flint, Hand Made. Furnished in White, Ruby, Green, Blue, Half Green, Half Ruby, Half Blue Globes.

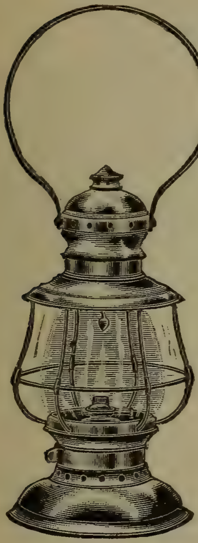


Fig. 1728.
No. 6. Bayonet Catch.

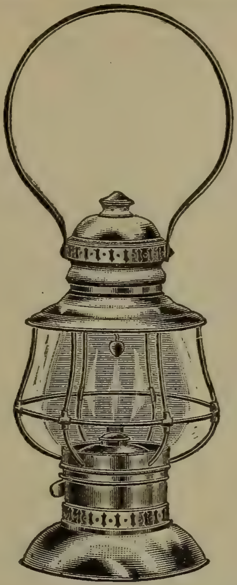


Fig. 1729.
No. 39. Bayonet Catch.

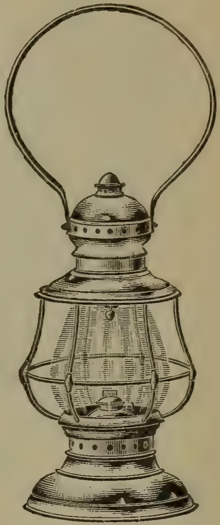


Fig. 1730.
No. 6. Screw Oil Cup.

Fig.	1728,	Brass,	White Globe	Per doz.	$54.00
"	1728,	"	Nickel-plated, White Globe	"	60.00
"	1728,	"	½ Ruby, Green or Blue	"	84.00
"	1728,	"	Nickel-plated, ½ Ruby, Green or Blue	"	90.00
"	1729,	"	" ½ " " "	"	66.00
"	1729,	"	½ Ruby, Green or Blue	"	60.00
"	1729,	"	White Globe	"	30.00
"	1729,	"	Nickel-plated, White Globe	"	36.00
"	1730,	"	" "	"	60.00
"	1730,	"	White Globe	"	54.00
"	1730,	"	½ Ruby, Green or Blue	"	84.00
"	1730,	"	Nickel-plated, ½ Ruby, Green or Blue	"	90.00

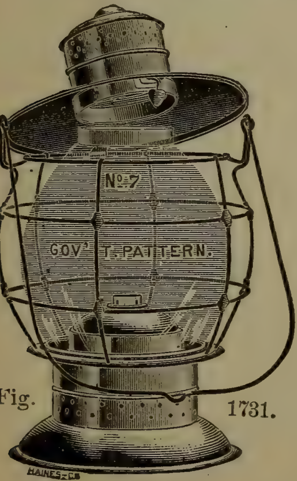


Fig. 1731.

NO. 7, NEW LAKE AND RIVER LANTERN.

Hinge Top.

(Government Pattern).

With No. 1 Extra Flat Copper Burner. For Sperm or Lard Oil and Kerosene.

With White Globe, Per doz.,	With Green or Blue Globe, Per doz.,	With Ruby Globe, Per doz.,
$13.00.	$18.50.	$22.50.

If wanted with No. 2 "Index" Kerosene Burners add, per dozen, $0.50.

6 inch Globes.

LAKE AND RIVER, LARD OIL, TIN LANTERNS.

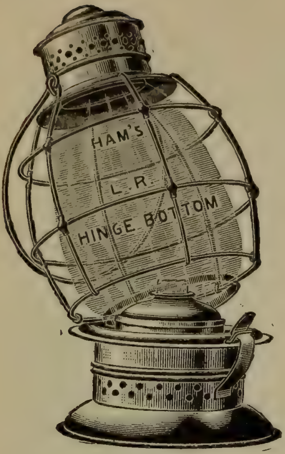


Fig. 1732.
Hinge Bottom.

No. 7,

Old Lake and River Lantern.
Regular Pattern.

With White Globe Per doz.	With Green or Blue Globe Per doz.	With Ruby Globe Per doz.
$12.00	$17.50	$21.50

Fitted with No. 1 Extra Flat Copper Burners.

If wanted with No. 2 "Index" Kerosene Burners, add 50c dozen.

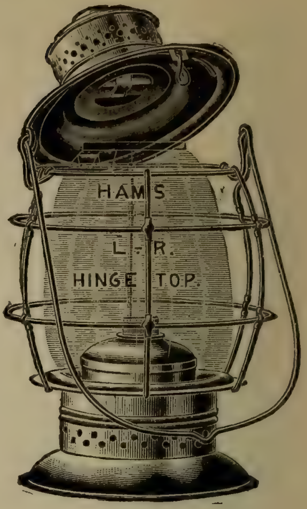


Fig. 1733.
Hinge Top.

These Lanterns are built very strong and finely finished. Used principally on River and Lake Steamers and Vessels.

POLE TARGET LAMPS (RAILROAD),

OR MAST HEAD LAMPS.

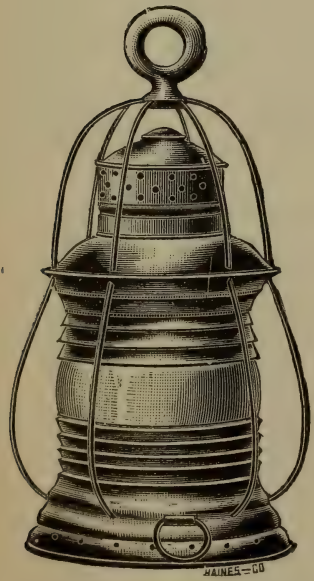


Fig. 1734.

WITH IMPROVED BOTTOM.

Burns Kerosene.

With White, Green or Ruby Fresnel.

Will not blow out.

With White Fresnel Globe . . .	Each, $8.00
" Green " " . . .	" 10.00
" Blue " " . . .	" 10.00
" Ruby " " . . .	" 12.00

FIREMAN'S LANTERNS.

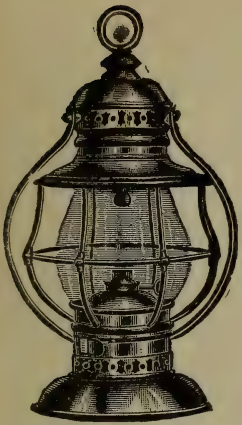


Fig. 1735.

NO. 39,

BRASS FIREMAN'S LANTERN.

Ring in Top.

Solid Brass Polished and Nickel-plated.

Burns Lard oil.

$\frac{5}{8}$ inch Ratchet Burner.

No. 39 Globe.

For Fire Department Use.

Solid Brass	Per doz.	$36.00
" Nickel-plated	"	42.00

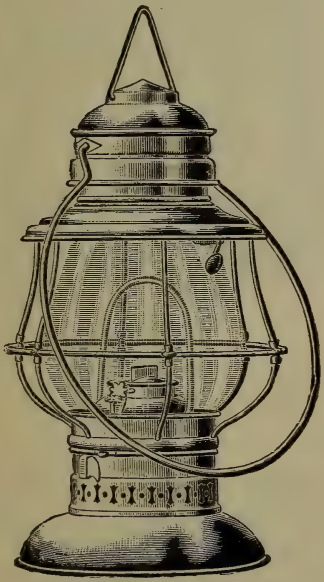


Fig. 1736.

NO. 39,

FIREMAN'S LANTERN.

With Hood and Outside Ratchet.

Burns Lard Oil.

$\frac{5}{8}$ inch Ratchet Burner.

No. 39 Globe.

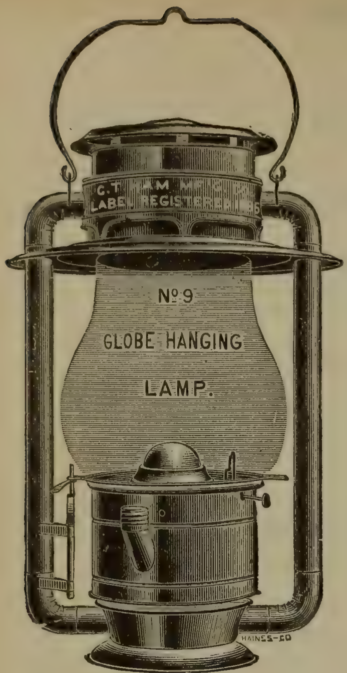
For Fire Department Use.

Strongly Built.

Solid Brass	Per doz.	$42.00
" Nickel-plated	"	48.00

HANGING LAMPS.

No. 9. Fig. 1737.



Patented
No. 9 –Fig. 1737.

IMPROVED GLOBE TUBULAR HANGING LAMP.

With Globe Lift Attachment.

Automatic Extinguisher. Outside Wick Regulator.

No. 3 Globe. Patent Wind-break. 1½ inch Wick.

This lamp is made exactly like the Globe Street, with the exception of the addition of bail to hang, and bottom in place of post socket.

Packed in cases of 1 each.

Net weight, 7½ lbs.; gross weight, 27 lbs.

No. 9, Hanging Lamp, with Tin Fount, each	$6.00
" 9, " " Glass " "	6.50
" 9, with 8-inch Side Reflector . .	8.50

No. 8.

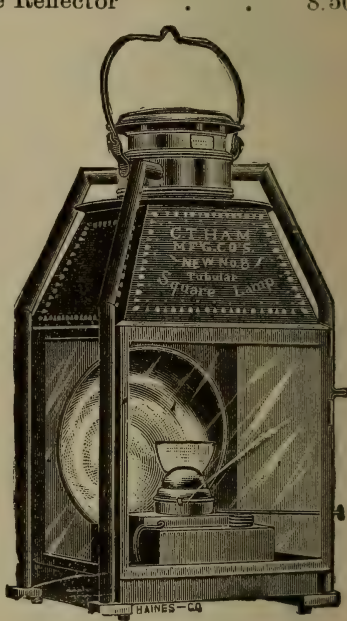
Packed 1 in a case.

Net weight, 11 lbs.

Gross weight, 31 lbs.

No. 8

Furnished with Guards if desired at additional cost, $1.00.



Patented.

No. 8--Fig. 1738.

NEW IMPROVED SQUARE TUBULAR LAMP.

Outside Wick Regulator. Patent Wind-break.

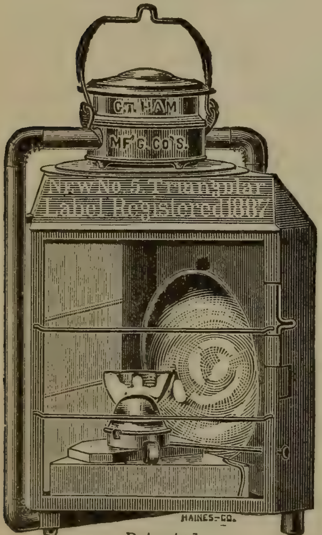
Ten inch Silvered Glass Reflector.

No. 3 Burner. 1½ inch Wick.

Height, 24½ inches. Width, 13½ inches.

Depth, 11½ inches.

Especially adapted for use in warehouses, packing houses, saw mills, lumber yards, freight yards, railway stations, or places where a good strong light is required. Each, $8.50.



Patented.

No. 5—Fig. 1739.

NO. 5, TRIANGULAR TUBULAR LAMP.

Outside Wick Regulator.
Patent Wind-break.
10 inch Silvered Glass Reflector.
No. 3 Burner. 1½ in. Wick.
Packed in cases of 1 each.
Net weight, 10 lbs.; gross weight, 30 lbs. Each, $8.50

COLD BLAST, TIN TUBULAR, SIDE REFLECTOR LAMP.

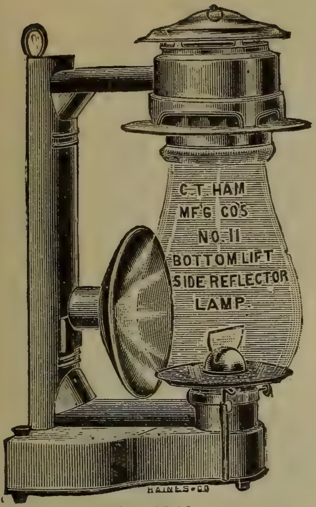


Fig. 1740.

NO. 11.

Five Inch Silvered Glass Reflector.

No. 1 Burner, ⅝ inch Wick, No. 0 Globe.

No. 11 Side Reflector Lamp,	Plain Tin,	Doz.,	$17.50
No. 11 " " "	Japanned,	"	18.00

NO. 12.

Six Inch Silvered Glass Reflector.

No. 2 Burner, 1 inch Wick, No. 0 Globe.

No. 12 Side Reflector Lamp,	Plain Tin,	Doz.,	$21.50
No. 12 " " "	Japanned,	"	22.00

Finished in Blue Japanned and Plain.

Can be filled, lighted or trimmed without removing the globe. Especially adapted for use in stores, warehouses, barns, engine and boiler rooms, or any place where a strong light is required.

Packed in cases of ½ dozen each.

Net weight, 16 lbs.; gross weight, 30 and 33 lbs.

NO. 7.

NEW IMPROVED SQUARE TUBULAR LAMP.

Outside Wick Regulator. Patent Wind Break.
Eight Inch Silvered Glass Reflector.

Height, 22 inches. Width, 11¼ inches.
Depth, 10½ inches.

No. 3 Burner. 1½ inch Wick.

Especially adapted for warehouses, saw mills, lumber yards, freight yards, railway stations, etc.

Net weight, 8 lbs.

Gross weight, 23 lbs.

Each, . . $6.50

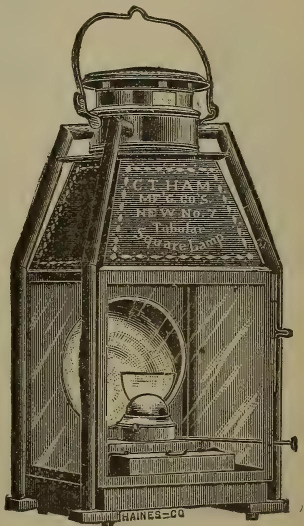


Fig. 1741.

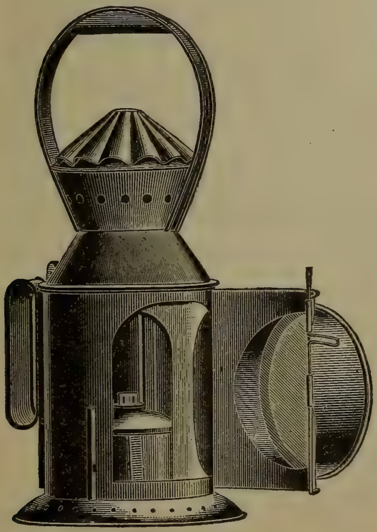


Fig. 1742.

RAILROAD TRI-COLORED INSPECTOR'S LAMP.

With Four Inch Reflector.

Five Inch Beveled Edge Front Glass.

Showing Red, Green or White Light, as desired.

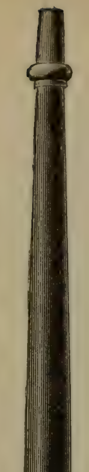
Each, ... $6.00

RAILROAD INSPECTOR'S LAMP.

Without the Tri-Colors.

Each, ... $3.00

GLOBE TUBULAR STREET LAMP.



Turned Wood Posts—6 feet above ground, 2 feet in ground.

Fig. 1743.

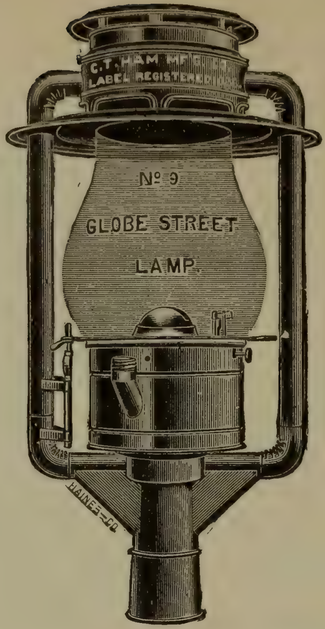


Fig. 1744.
Patented.

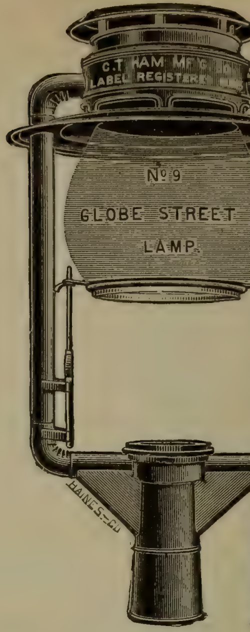


Fig. 1744.
Showing Lift Wire.

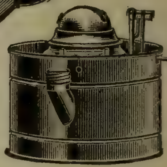


Fig. 1745.
Fount and Burner for No. 9 Street Lamp.

NO. 9 IMPROVED GLOBE TUBULAR STREET LAMP

With Bottom Lift Attachment for Raising Globe. Outside Wick Regulator. Automatic Extinguisher. No. 3 Globe. 1½ in. Wick. Patent Wind-break. These Globe Street Lamps have many new and modern improvements. Solid Elbows, Automatic Time Extinguisher, Bottom Lift Aattachment, etc., also the new Wind-break around the top of lamp, making it impossible for the wind to extinguish the light. It is the most perfect Globe Street Lamp made. The Patent Bottom Lift Attachment is a great improvement over the old way of raising the globe to light and trim, and for purpose of removing oil fount, as the use of one hand only is required to raise the globe. The possibility of the globe dropping and breaking is positively avoided. The globe is easily removed to clean. By use of the Automatic Extinguisher the lamp can be set, when lighted, to burn a certain number of hours. It will then go out of its own accord, thus saving the trouble and expense of extinguishing. Gives a steady, bright light, free from all flickering. We guarantee this lamp to give perfect satisfaction. Packed in cases of 1 each. Net weight, 7 lbs.; Gross weight, 29 lbs. Weight of Posts, 25 lbs. net.

No. 102-A	No. 9 Globe Street Lamp, with Tin Fount	Each, $6.00
" 102-K	" " " " " " Glass "	" 6.50
" 102-B	" " " " " " Brass "	" 7.00
" 102-C	" " " " " " Copper "	" 7.00

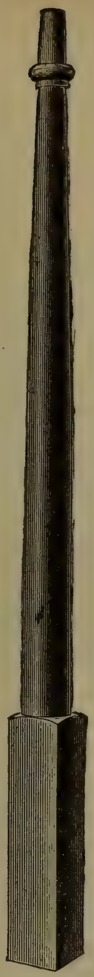
Furnished with Colored Globes if desired.

POSTS for Street Lamps, Turned Wood . . . . Each, $2.00

BRACKETS when wanted in place of Posts:

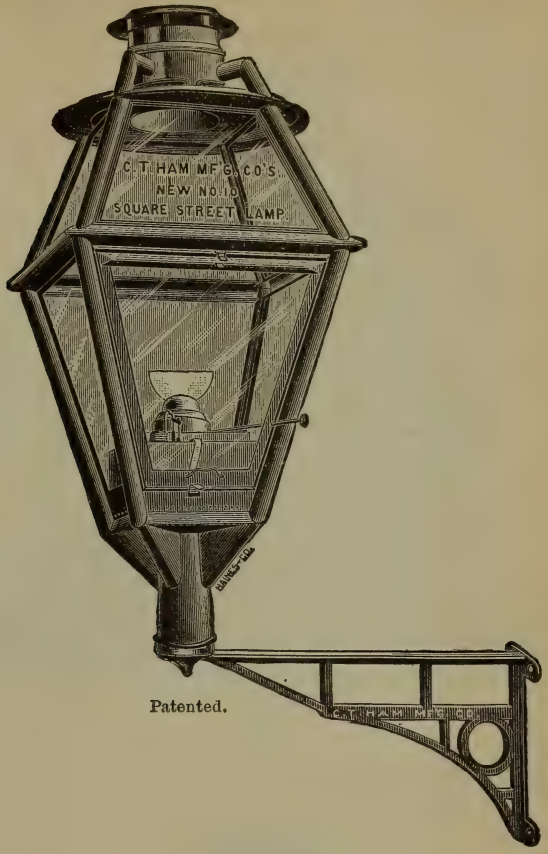
No. 106.	Iron Brackets, 24 inches long	Each, $1.00
" 107.	" " 19¾ " " Ornamental	" 1.00
" 108.	" " 11½ " "	" 1.00

SQUARE TUBULAR STREET LAMP.



Turned Wood Posts—6 feet above ground, 2 feet in ground.

Fig. 1746.



Patented.

Fig. 1747.

NO. 10, NEW IMPROVED SQUARE TUBULAR STREET LAMP.

Outside Wick Regulator. Automatic Extinguisher.
Patent Wind-break. 1½ inch Wick.

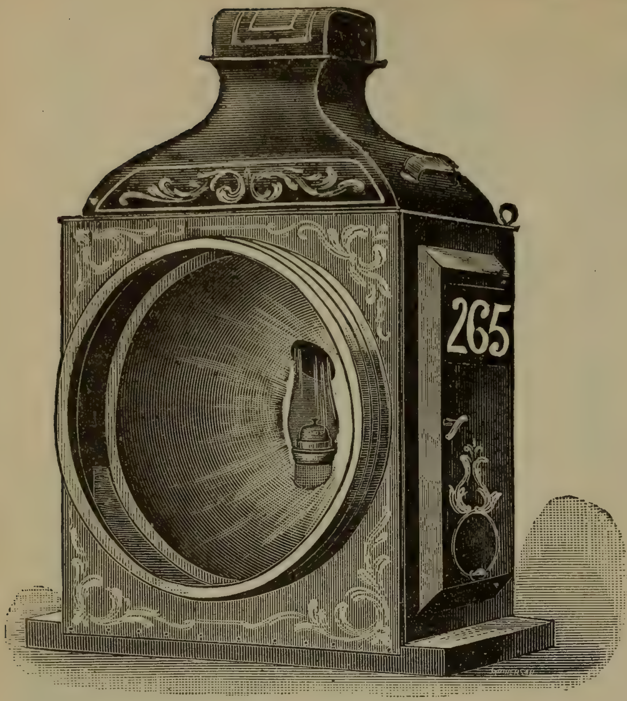
The above cut represents the NEW Improved No. 10 Square Tubular Street Lamp, which is constructed on the same principle as the celebrated No. 9 Globe Street Lamp, and is equal in every respect to the Globe Street Lamp in its burning qualities. It will not freeze up in cold weather, and will not smoke or blow out in the hardest winds. Gives a very bright light and entirely free from flickering. The burner is set corner-wise across the lamp so that the flat side of the flame is shown from each of the four sides of the lamp, thereby giving an equal light in all directions, and which also prevents the flame from striking the top lights of glass, which in other lamps is a serious defect, causing excessive breakage. By use of the Automatic Extinguisher the lamp can be set, when lighted, to burn a certain number of hours. It will then go out of its own accord, thus saving the trouble and expense of extinguishing. Packed in cases of 1 each. Net weight, 12 lbs.; gross weight, 35 lbs.; weight of posts, 25 lbs. net.

Fig. 1747. No. 10 Square Tubular Street Lamp, each $8.00
Also furnished with colored glass if wanted, and glass lettered (painted on) at additional cost.
Posts for the above, Turned Wood, each $2.00

BRACKETS.

No. 106.	Iron Brackets, 24	inches long	. . . .	Each,	$1.00
" 107.	" 19¾	" ornamental	. . . . . .	"	1.00
" 108.	" 11½	"	. . . .	"	1.00

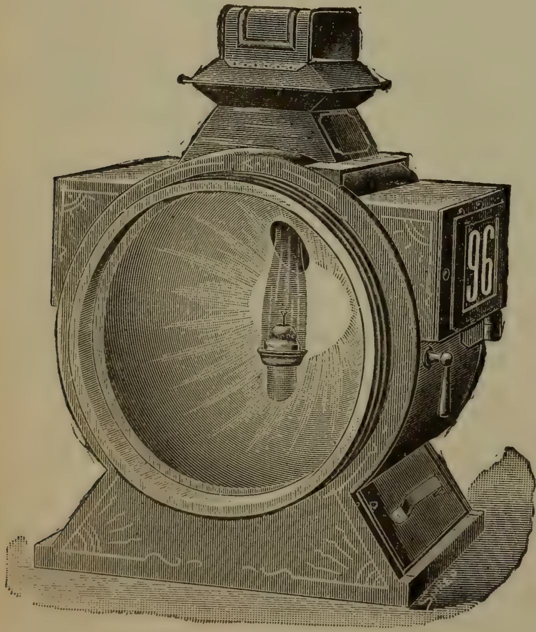
LOCOMOTIVE HEAD LIGHTS.



23 inch, Signal No. $
23 " Plain .
20 " Signal No.
20 " Plain .
18 " Signal No.
18 " Plain .
18 " Signal No. Round Door in side . . .
18 inch, Plain, Round Door in side . . .
16 inch, Signal No.
16 " Plain .
16 " Signal No., Round Door in side . . .
16 inch, Plain, Round Door in side . . .

Fig. 1748.

We make any size or kind, with or without Signal Numbers, or to Blue Prints.



18-inch Signal Number

Special

DRUM HEAD LIGHT.

Door opens on the side.

We make all sizes, with or without Signal Numbers.

The above Head Lights are all made plain black cases unless otherwise ordered.

Price, each . . . . $

Fig. 1749.

LOCOMOTIVE HEAD LIGHTS.

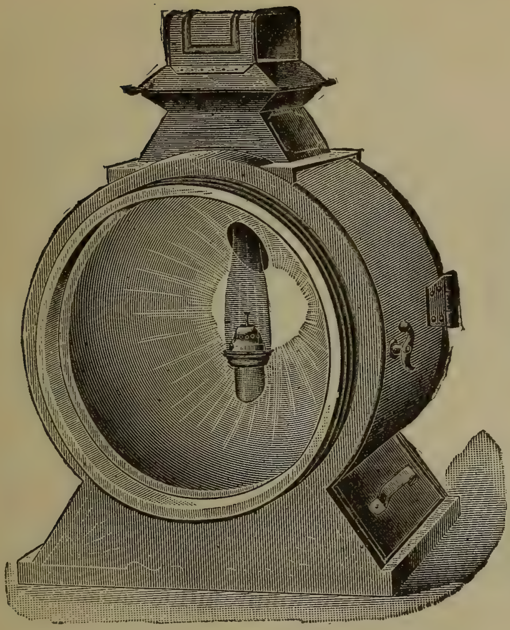


Fig. 1750.

18-INCH PLAIN

SPECIAL DRUM HEAD LIGHT.

Closed.

Door Opens on the Side.

We Make All Sizes.

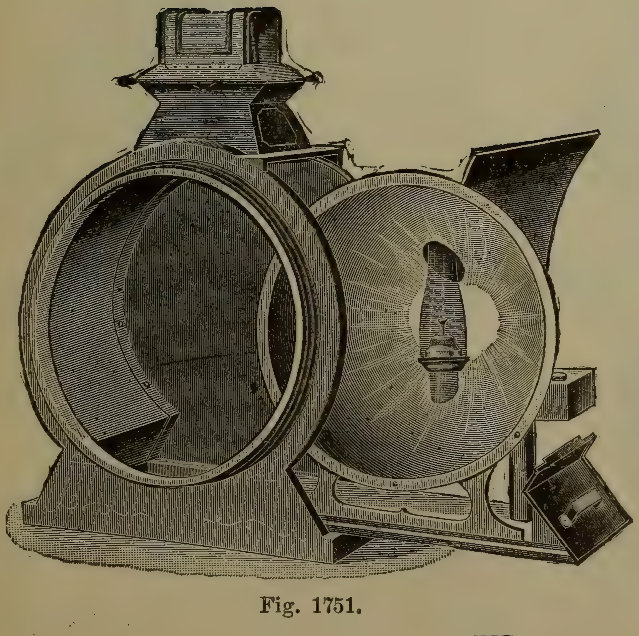


Fig. 1751.

18-INCH PLAIN SPECIAL DRUM HEAD LIGHT.

Opened.

Showing the Inside, or Manner of Drawing from the Case, with Door Open on the Side.

Each, $

LOCOMOTIVE HEAD LIGHTS.

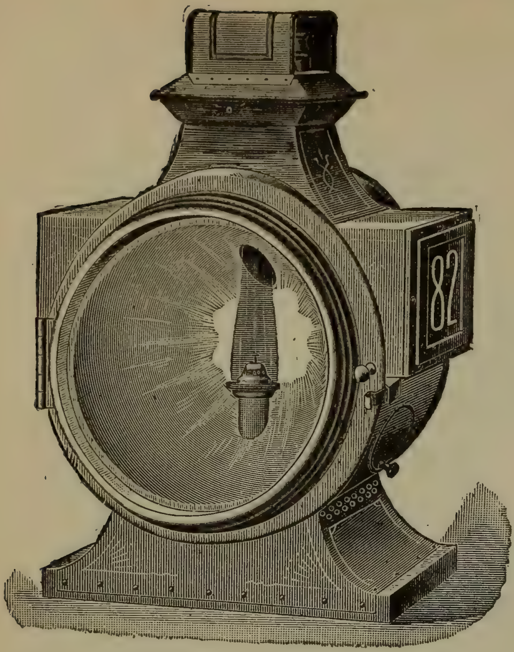


Fig. 1752.

16-Inch

ROUND SIGNAL NUMBER

HEAD LIGHT.

Door opens on the front.

We make any size,

with or without Signal Numbers.

Each, $

ELECTRIC HEAD LIGHTS.

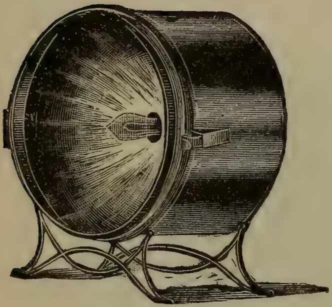


Fig. 1753.

10-INCH ELECTRIC HEAD LIGHT.

Made of Brass, Lacquered, or Tin, Painted.

Heavy Copper Reflector.

Silver Plated.

Malleable or Brass Supports.

This is used for Hood of Car.

Each, $

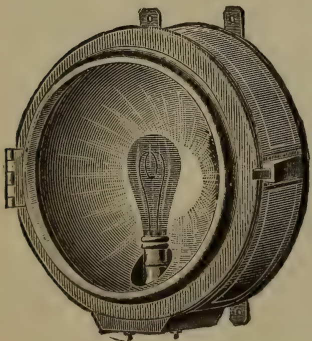


Fig. 1754.

10-INCH ELECTRIC HEAD LIGHT.

Four inches deep.

Something new to bolt on dash of car.

Made of Iron, nicely Painted.

Copper Reflector. Silver Plated.

Does not project beyond Bumpers, therefore not liable to be smashed in collision.

Each, $

ELECTRIC HEAD LIGHTS.

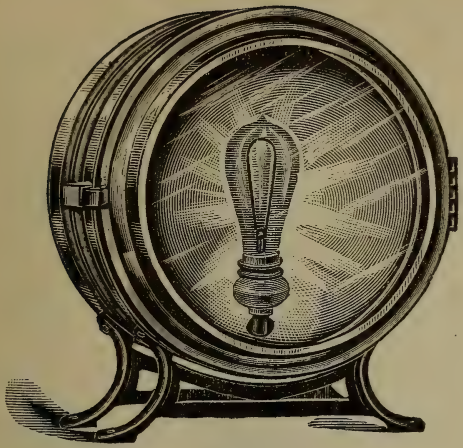


Fig. 1755.

HEAD LIGHT.

Brass or Bronze Drum.

11-inch Reflector.

Each . . . . $

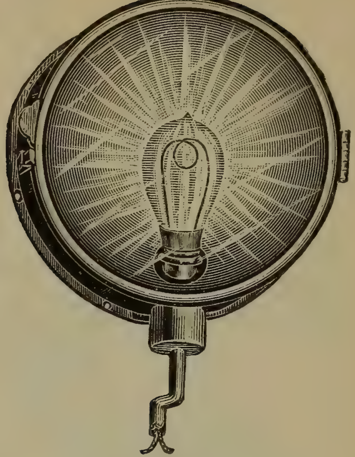


Fig. 1756.

DASH LIGHT.

To Bolt on Dash.

Furnished with Brass Door on Hinge.

8, 9 and 11-inch Reflector.

Each . . . . $

DASH HEAD LIGHTS.

To Hang on Dash.

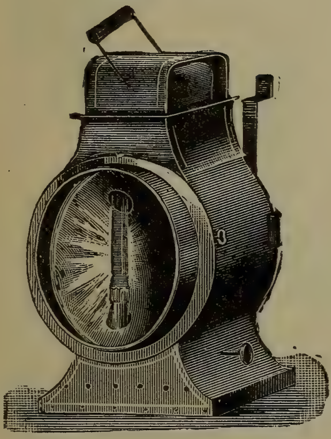


Fig. 1757—Closed.

10-inch

MOTER CAR OIL HEAD LIGHT.

Doors Open on the Side.

Hand Wheel Outside of Case.

Also Made 12-inch with Locotive Head Light Burner.

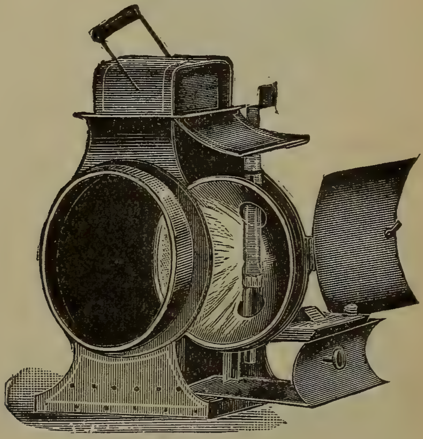


Fig. 1757—Opened.

10-inch

OIL HEAD LIGHT.

Showing the Inside or Manner of Drawing from Case.

Can Draw Reflector with Chimney in Place.

Are not obliged to open the door to raise or lower wick.

Each . . . . $

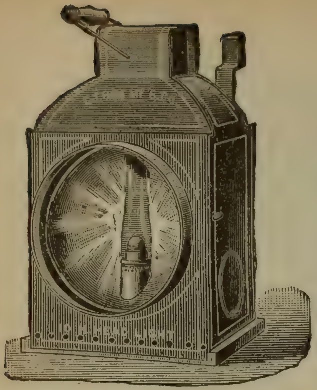


Fig. 1758.

TEN INCH SQUARE OIL HEAD LIGHT.

With Dash Board Attachment.

For Cable or Motor Cars.

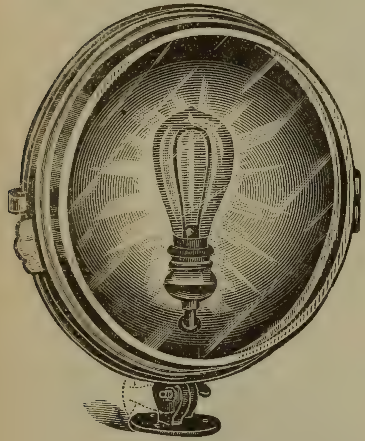
Case—21¾ inches high, 12 inches wide, 9½ inches in depth.

Reflector—Made of Copper and Silver Plated. 10 inches diameter, 3¾ inches in depth.

Burner—Regular Locomotive Head-light Pattern. Takes circular "Moehring" wick 5 inches long.

Chimney—3 inch Argand or "Moehring" chimney, Ham Pattern.

Each $9.00



Front View.

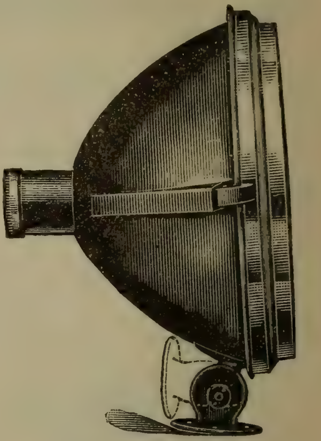
Fig. 1759.

ELECTRIC HEAD LIGHTS.

NO. 45 ELECTRIC HEAD LIGHT.

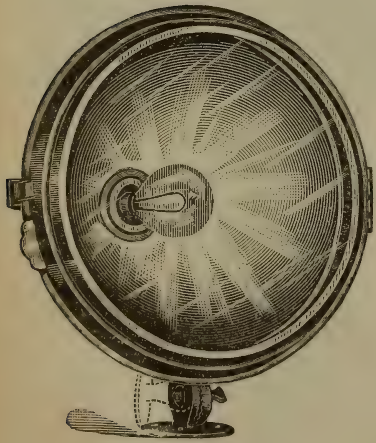
11 inch Reflector.

Each . . . . $



Side View.

Fig. 1759.



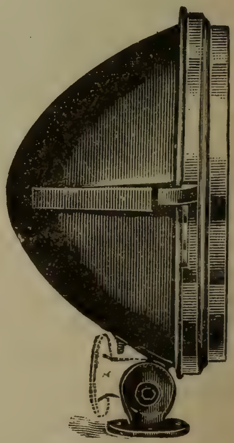
Front View.

Fig. 1760.

NO. 40 ELECTRIC HEAD LIGHT.

11 inch Reflector.

Each . . . . $



Side View.

Fig. 1760.

CAB OR GAUGE LAMPS.

BRASS AND NICKEL-PLATED.

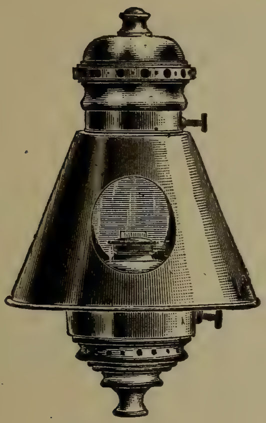


Fig. 1761.

LOOSE GLOBE.

Brass Cab Lamp . .	Dozen,	$36.00
N. P. " " . .	"	48.00

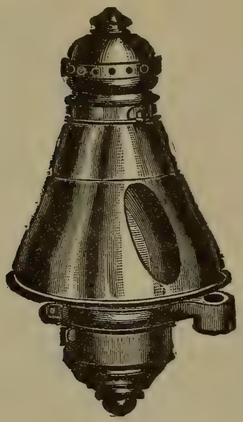


Fig. 1762.

PLASTERED GLOBE.

Brass Cab Lamp . .	Dozen,	$36.00
N. P. " " . .	"	48.00

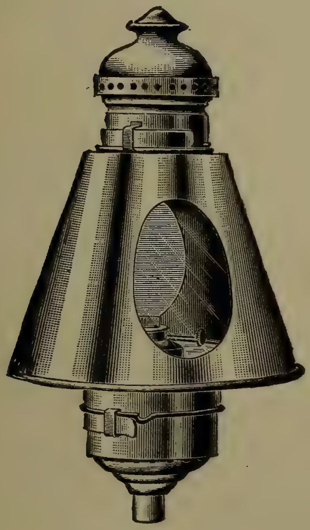


Fig. 1763.

CAB LAMP, WITH HOOD.

Per dozen	$36.

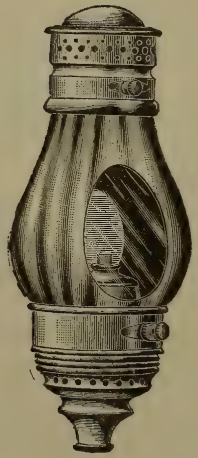


Fig. 1764.

CAB LAMP, PAINTED.

Per dozen	$30.00

CAB LAMP GLOBES.

Per dozen	$4.00

SEMAPHORE LENSES.

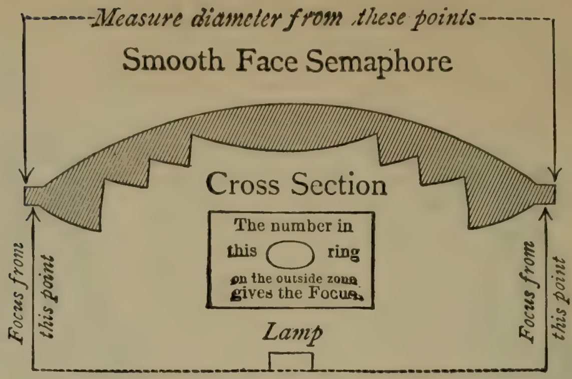

Measure diameter from these points
Smooth Face Semaphore
Cross Section
The number in this ring on the outside zone gives the Focus.
Focus from this point
Focus from this point
Lamp

Fig. 1765.

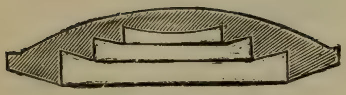


Fig. 1766.

SMOOTH FACE SEMAPHORE.

Net prices each.

Diameter in.	3	3¾	3⅞	4	4⅛	4¼	4½	5	5⅜	6	6⅜	7	7⅜	8	8⅜	9
Flint	$0.10	.13	.14	.14	.15	.15	.17	.20	.22	.33	.38	.55	.66	.77	.82	1.20
Green	$0.15	.18	.20	.20	.22	.22	.24	.30	.33	.50	.55	.70	.80	.95	1.00	1.40
Blue	$0.15	.18	.20	.20	.22	.22	.24	.30	.33	.50	.55	.70	.80	.95	1.00	1.40
Ruby	$0.23	.28	.30	.30	.33	.33	.35	.40	.45	.60	.65	1.00	1.25	1.45	1.55	1.90

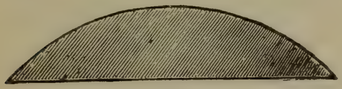


Fig. 1767.

PLAIN BULL'S EYES.

Net prices each.

Inches	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4⅛	4 3/16
Flint	$0.06	.07	.08	.09	.10	.11	.12	.13	.14	.15	.17
Green	$0.09	.10	.11	.12	.13	.14	.15	.16	.17	.19	.21
Ruby	$0.20	.23	.26	.30	.34	.38	.42	.46	.50	.52	.54

Net prices each.

Inches	4¼	4½	5	5⅜	6	6⅜	7	7⅜	8	8⅜	9
Flint	$0 20	.25	.35	.50	.70	.85	1.00	1.20	1.40	1.65	2.00
Green	$0.25	.30	.55	.70	.85	.95	1.15	1.35	1.60	2.00	2.50
Ruby	$0.56	.60	.70	.90	1.10	1.30	1 55	1.80	2.10	2.50	3.00

SILVERED GLASS REFLECTORS.

Inches	3	4	5	6	7	8	9	10	11	12	14	16
Per dozen	$3.75	4.00	4.25	5.00	6.00	7.00	8.00	9.25	10.75	12.50	36.00	60.00

NICKEL-PLATED REFLECTORS.

Inches	4	5	6	7	8	9	10
Per dozen	$2.00	2.25	2.50	2.75	3.25	3.75	4.50

FRESNELS AND SECTIONS.

In Whole, Half, Third and Quarter Sections.

Prices quoted on application,

GASKETS.

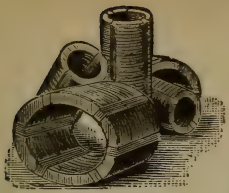


Fig. 1768.

PLAIN, MIXED, AND PURE GASKETS AND RINGS.

Plain or cloth insertion, Gaskets and Rings. Regular shapes and sizes.

$\frac{1}{16}$ inch or less in thickness, per lb.,	$1.25
$\frac{3}{32}$ inch and upwards,	1.00

There is one-ply of cloth to every $\frac{1}{16}$ inch thickness. Five cents per pound additional will be charged for each extra ply of cloth. The cloth, whether used as an insertion or on the outside, counts as one-ply.

MIXED OR FIBROUS GASKETS AND RINGS.

Regular Shapes and Sizes.

$\frac{1}{8}$ inch or less in thickness, per lb.,	$0.90
$\frac{5}{32}$ inch and upwards,	.80

PURE GASKETS AND RINGS.

Regular Shapes and Sizes.

Per lb.,	$1.50

Gaskets and Rings, either plain, mixed, or pure, of unusual size, thickness, etc., made to order at special prices.

THE ECLIPSE SECTIONAL RAINBOW GASKET.

Will Fit any Hand or Man-Hole.

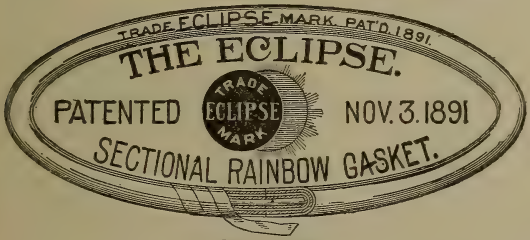

TRADE ECLIPSE MARK. PAT'D 1891.
THE ECLIPSE.
PATENTED
TRADE ECLIPSE MARK
NOV. 3. 1891
SECTIONAL RAINBOW GASKET.

Fig. 1769.

Length and Weight per Box;

$\frac{3}{8}$ inch diam.	36 feet,	$3\frac{1}{4}$ lbs.
$\frac{1}{2}$ " "	36 "	$5\frac{1}{4}$ "
$\frac{5}{8}$ " "	24 "	6 "
$\frac{3}{4}$ " "	18 "	$5\frac{3}{4}$ "

$\frac{3}{8}$ inch for Pipe Unions.
$\frac{1}{2}$ inch for Hand-Hole Plates.
$\frac{5}{8}$ and $\frac{3}{4}$ inch for Man-Hole Plates.
Price, per lb., . $1.00

A special size of $\frac{1}{4}$ inch Eclipse. 48 feet, in box, weight about 1 lb. Price, per lb., $2.00.

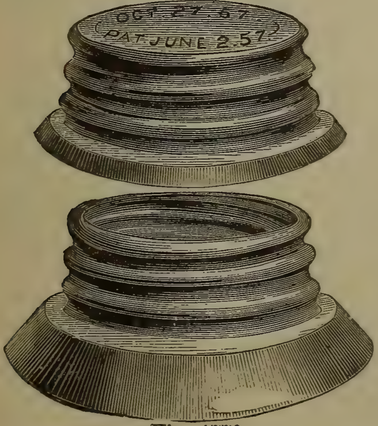


Fig. 1770.

CAN SCREWS

WITH TIN INSIDE SCREWS AND ZINC OUTSIDE SCREW CAPS.

Price, Per Gross.

Size, inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$
Cork Lining,	$5.45	$6.45	$7.30	$9.30
Treated Felt Paper Lining,	5.15	6.10	6.95	8.65
Treated Wood Pulp Lining,	5.10	6.05	6.90	8.60
Wax Paper Lining,	4.95	5.85	6.50	8.10

Size, inches,	$1\frac{1}{2}$	$1\frac{3}{4}$	2
Cork Lining,	$11.00	$15.35	$19.35
Treated Felt Paper Lining,	10.45	14.20	17.10
Treated Wood Pulp Lining,	10.25	14.05	17.55
Wax Paper Lining,	9.60	13.15	16.45

REGULAR TIN SCREWS.

With Flange on Outside Screw Cap.

Size, inches,	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
No Lining,	$2.95	$3.65	$4.05	$5.45	$6.25

REGULAR TIN SCREWS.

Without Flange on Outside Screw Cap.

Size, inches	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$
Cork Lining,	$3.65	$4.50	$5.05	$6.90	$7.95
Treated Felt Paper Lining,	3.30	4.15	4.75	6.25	7.40
Wax Paper Lining,	3.15	3.90	4.30	5.75	6.55
Treated Wood Pulp Lining,	3.25	4.10	4.75	6.20	7.20

CORRUGATED COPPER GASKETS.

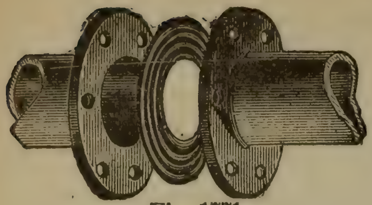


Fig. 1771.

Three to six corrugations are all that are necessary, so that the space within the bolt holes usually determines the width of the Gasket. In cases where the flanges are thin, and for this reason liable to bend when the bolts are tightened, it is advisable to extend the copper Gasket to the full width of flange. This will, of course, require the cutting of bolt holes in the Gasket.

List of Standard Size Corrugated Copper Gaskets.

Standard Size.	Inside Bolt Line (Narrow).	Cost of One Gasket.	Full Width of Flange.	Cost of One Gasket.
1 inch.	1¼x 2⅛	$0.04	1¼x 4	$0.23
1½ "	1¾x 2¾	.07	1¾x 4½	.27
2 "	2¼x 4¼	.20	2¼x 6	.49
2½ "	2¾x 4¾	.23	2¾x 7	.65
3 "	3¼x 5½	.31	3¼x 7½	.71
3½ "	3¾x 6	.35	3¾x 8½	.91
4 "	4¼x 6½	.38	4¼x 9	.99
4½ "	4¾x 7	.42	4¾x 9¼	.99
5 "	5½x 7¾	.46	5½x10	1.09
6 "	6½x 8⅞	.57½	6½x11	1.24
7 "	7½x10	.69	7½x12½	1.57
8 "	8½x11	.77	8½x13½	1.73
9 "	9½x12¼	.94	9½x15	2.11
10 "	10½x13⅝	1.18½	10½x15	2.29
12 "	12½x15⅝	1.38½	12½x19	3.22
14 "	14½x17¾	1.65	14½x21	3.63
15 "	15½x19	1.90	15½x22¼	4.01

VULCABESTON ROUND PRESSED ROPE GASKETS.

Made expressly for Companion Flange Joints of standard sizes. Ready for use; no waste.

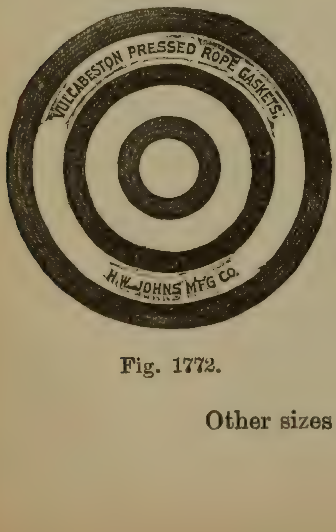

VULCABESTON PRESSED ROPE GASKETS.
H.W. JOHNS MFG CO.

Fig. 1772.

No.	Size Pipe or Valve.	Inside Diam.	Outside Diam.	Thickness.	Price per Gasket.
R 1	2	3	4	⅛	$0.17
R 2	2½	3¾	4¾	⅛	.18
R 3	3	4¼	5¼	⅛	.19
R 4	3½	5¼	6¼	⅛	.21
R 5	4	5⅝	6⅝	⅛	.22
R 6	4½	5⅞	6⅞	⅛	.23
R 7	5	6⅝	7⅝	⅛	.24
R 8	6	7⅝	8⅝	⅛	.26
R 9	7	8⅜	9⅞	3/16	.44
R 10	8	9⅜	10⅞	3/16	.48
R 11	9	10⅞	12⅜	3/16	.54
R 12	10	11¾	13¼	3/16	.58
R 13	12	14½	16	3/16	.72
R 14	14	15⅝	17⅝	¼	1.10
R 15	15	16⅞	18⅞	¼	1.20
R 16	16	17⅝	20⅛	¼	1.40
R 17	18	19	21½	¼	1.60
R 18	20	21¼	23¾	¼	1.80
R 19	22	23⅜	25⅞	¼	2.00
R 20	24	25½	28	¼	2.40

Other sizes made to order at proportionate costs.

MINERAL WOOL.

Kind.	Pounds per Cubic Foot.	Square foot, 1 inch. Thick.	Cubic feet to Ton.	Per 100 lbs. in Ton Lots.	Per Cubic Foot at Factory.
Ordinary Slag Wool . .	12	1 lb.	166	$1.25	$0.12
Selected “ . .	9	¾ “	223	1.92	.15
Extra “ . .	6	½ “	333	4.25	.24
Ordinary Rock Wool . .	12	1 “	166	2.25	.24
Selected “ . .	8	⅔ “	250	4.25	.32
Extra “ . .	6	½ “	333	7.25	.42

STEEL WOOL

For removing Paint, per lb. $0.70

HAIR FELT.

In Bales 300 Square Feet. 3 Feet and 6 Feet Wide.

Thickness, inches	⅛	¼	⅜	½	¾	1	1¼	1½	2
Per sq. foot . .	$0.03¼	.03½	.03¾	.04	.04¾	.05½	.06¾	.08	.10½

ASBESTOS MILL BOARD.

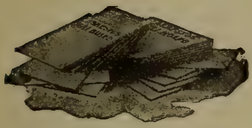


Fig. 1773.

Fireproof and acid proof. Made soft, medium and hard. Stock size, 40x40 inches, 42x44 inches and 44x48 inches. Special sizes to order.

Thickness, inches . $\frac{1}{32}$, $\frac{3}{64}$, $\frac{1}{16}$, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$

Case lots, per lb. .07 Broken cases, per lb. .10

Cases weigh about 250 lbs.

ASBESTOS ROLL MILL BOARD.

In rolls of $\frac{1}{32}$ to $\frac{1}{8}$ inch inclusive in thickness, 36 to 44 inches wide, per lb., 10 cents.

ASBESTOS BUILDING FELT.

Fig. 1774.

Made of of the best quality of Asbestos Fibre. Possesses the highest fireproof and non-conducting qualities, odorless, acid and vermin proof and invaluable as a protection against fire. Used for lining passenger and freight cars, sheathing houses, lining between floors and under slate, tin and iron roofs, also for wrapping furnace pipes. In rolls weighing 75 to 100 pounds, 36, 40 and 42 inches wide. Weighing from 6 to 16 pounds to 100 square feet. Per lb. . . . . 8 cents

ROOFING MATERIALS AND COAL TAR PRODUCTS.

2-ply Roofing, 108 square feet to the roll, per roll	$0.80
3-ply “ 108 “ “ “ “	1.10
Tarred Single Felt, 324 “ “ “ (40 lbs.), per net ton . .	36.00
“ Slaters “ 500 “ “ “ (30 lbs.), “ . .	45.00
Rosin Sized Sheathing, 500 square feet to the roll, “ . .	40.00
Roof Coating, in barrel lots, per gal.	.15
“ Paint, Black, “ “	.30
Black Varnish, “ “	.35
Roofing Pitch “ per bbl.	2.25

ASBESTOS CORD.

Strong hard finished 4 Strand Cord, $\frac{1}{8}$ inch diameter. Put up in 1 lb. Balls, and 5 and 10 lb. Reels. About 130 feet to pound.

Acid and Fire Proof, ... Per lb., $0.80

VULCABESTON SHEET PACKING.

For Joints for Steam, Gas, Hot Air, Oil and Ammonia Fittings.

This Packing is made in sheets 35 in. x 35 in. and in rolls. In ordering, care should be taken to specify in what shape the packing is wanted, as unless specified "in rolls," sheets will be furnished. Packing for hot air and ammonia is especially made for the purpose, and if to be used for either of these purposes, mention should be made to this effect in ordering.

In Sheets 35 x 35 Inches.

$\frac{1}{32}$ inch thick,	$\frac{1}{16}$ inch thick,	$\frac{1}{8}$ inch thick,	$\frac{3}{16}$ inch thick,	$\frac{1}{4}$ inch thick,
Per sheet, $2.40.	Per sheet, $3.00.	Per sheet, $4.60.	Per sheet, $7.00.	Per sheet, $8.00.

Soft Sheet Packing is supplied for very rough joints.

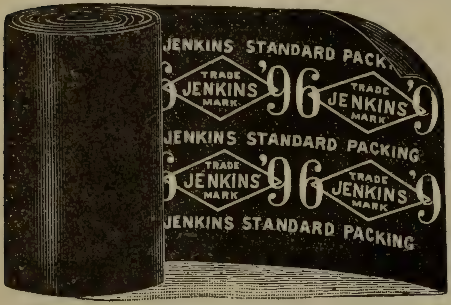


Fig. 1775.

JENKINS' STANDARD '96 PACKING.

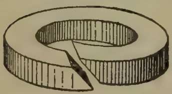
A Perfect Joint Packing.

It is made one yard wide, and in thickness $\frac{1}{32}$, $\frac{1}{16}$, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{3}{16}$ and $\frac{1}{4}$ inch.

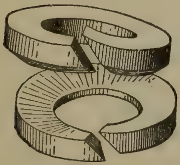
$\frac{1}{32}$	thick	weighs	about	3	lbs.	per square yard.
$\frac{1}{16}$	"	"	"	6	"	" " "
$\frac{3}{32}$	"	"	"	9	"	" " "
$\frac{1}{8}$	"	"	"	12	"	" " "
$\frac{3}{16}$	"	"	"	18	"	" " "
$\frac{1}{4}$	"	"	"	24	"	" " "

Price per lb., . . . $0.80.

VULCABESTON MOULDED RINGS FOR RAILROAD WORK.



No. 1.



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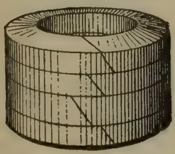


No. 3.

Fig. 1776.

Concave and Convex Moulded Packing Rings for use on valve stems, piston-rods, air-brake pumps, etc. Many of the large railroad systems have adopted these packing rings for steam and air ends of Westinghouse and New York air brake pumps, and for locomotive valve stems and piston-rods.

Brake Pump rings are:

No. 102$\frac{1}{2}$, Plain Split Ring, 1$\frac{15}{16}$ in. x 1$\frac{1}{4}$ in. x $\frac{3}{8}$ in. for Westinghouse Air Brake passenger service 6 in. and 8 in. pumps.

No. 400, Concave and Convex Rings, 1$\frac{15}{16}$ in. x 1$\frac{1}{4}$ in. for same service, 6 in. and 8 in. pumps.

No. 544, Concave and Convex Rings, 2$\frac{1}{32}$ x 1$\frac{3}{8}$ in. for W. A. B. Co. freight service, 9$\frac{1}{2}$ in. pumps.

No. 168, Concave and Convex Rings, 2 in. x 1$\frac{1}{4}$ in. for New York Air Brake Co., all sizes pumps.

Price per set (4 rings) . . . . $0.22.

PRICES OF OTHER SIZES ON RECEIPT OF SPECIFICATIONS.

JENKINS' DISCS FOR VALVES.

Size, .	$\frac{1}{4}$	$\frac{3}{8}$	$\frac{1}{2}$	$\frac{3}{4}$	1	1$\frac{1}{4}$	1$\frac{1}{2}$	2	2$\frac{1}{2}$	3
Price, Ea.,	$0.03	.04	.04	.05	.06	.09	.12	.18	.24	.33
Size, .	3$\frac{1}{2}$	4	4$\frac{1}{2}$	5	6	7	8	10	12	
Price, Ea.,	$0.45	.52	.60	.68	.90	.98	1.20	1.75	2.25	

Will stand Steam, Oils or Acids.

HARD DISCS FOR STEAM. SOFT DISCS FOR COLD WATER.

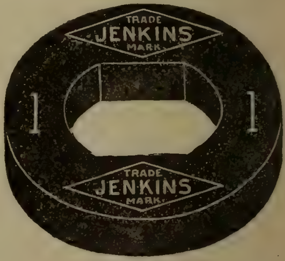


Fig. 1777.

ASBESTOS PISTON ROD PACKING.

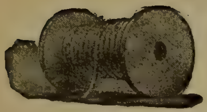


Fig. 1778.

Made of the finest long fibre Asbestos, and spun and twisted into ropes of any desired size from ¼ inch to 2 inches in diameter. This packing is very pliable, the best and most durable known for locomotives, marine engines, etc. Not affected by acids, dampness or heat. Put up on reels 10, 25 and 50 pounds each. Price per lb., 35 cents.

ASBESTOS WICK PACKING.

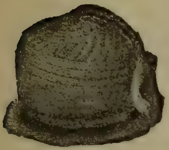


Fig. 1779.

Used for packing around small steam valves, pumps, valve stems, etc. The strands can be easily separated. Acid and fire-proof. Put up in ¼, ½ and 1 lb. balls. Price per lb., 35 cents.

ASBESTOS BRAIDED PACKING.

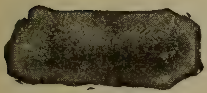


Fig. 1780.

This is composed of a pliable, elastic, twisted core covered with a heavy Asbestos braid, thus keeping the inside strands from loosening, or the packing from getting out of shape. Sizes, ⅛ to 1 inch or larger. Put up on reels of 10, 15, 25 and 50 lbs. each. Price per lb., 35 cents.

ASBESTOS BRAIDED RUBBER CORE PACKING.

This packing is of the same construction as Asbestos Braided Packing, excepting the core is of best quality rubber instead of asbestos core. The rubber core adds somewhat to its pliability. Put up same as regular piston packing. Price per lb., 35 cents.

ASBESTOS WOUND CLOTH PACKINGS.

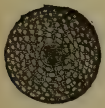


Fig. 1781.

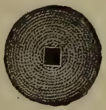


Fig. 1782.

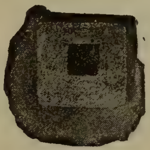


Fig. 1783.

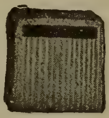


Fig. 1784.

These packings are made in several different styles, with or without rubber core, also with metallic insertion. They are formed of successive layers of Asbestos Cloth, each layer having a thin coat of rubber composition to make the layers adhere to each other. When the cloth is wound to form a certain size or thickness the packing is given a coating of India rubber solution. These packings are very firm and elastic, absolutely waterproof, not affected by heat, frictionless and very efficient. Used for all kinds of high pressure work generally and also where moisture will be encountered. Especially recommended for marine work. Put up in coils or on reels, also in boxes 6 to 8 lbs. each. Price, round or square, per lb., 75 cents.

INDRUBESTOS PACKING.

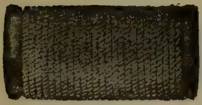


Fig. 1785.

This packing is composed of asbestos so combined with India rubber and materials as to form a packing that will always remain pliable and make a tight joint. It is so constructed that the lubricating composition permeates the entire packing, thus rendering it doubly useful, and as the exposed surface is worn by friction it always remains the same until the packing is taken out. In sizes from ¼ inch to 2 inches. Put up on reels. Price per lb., 75 cents.

VULCANIZED ASBESTOS PISTON-ROD PACKING.

This is a flexible rope packing braided from strong twisted strands of pure Asbestos combined with India Rubber and vulcanized. It is an improvement upon our Pure Asbestos Packings, and is superior to all others for piston-rods, valve stems, pump valves, etc., where high pressure steam, hot water, oils, acids, ammonia, etc., are used, and for locomotive, stationary and marine engines.

Round, all sizes from ⅛ to 2 inches diameter on reels, 10 to 50 lbs., per lb. . . .	$1.00
Sizes ⅛, 3/16 and ¼ inch on ¼, ½ and 1 lb. spools, per lb.	1.00
" 1/16 and 3/32 inch on ¼ ½ and 1 lb. " "	1.25

Number of feet of the different sizes round Packing to the pound.

Size, inches .	1/16	3/32	⅛	3/16	¼	5/16	⅜	½	⅝	¾	⅞	1	1¼	1½	2
No. of feet .	450	225	128	50	25	20	16	9	6½	5¼	4	3	2¼	1⅔	1

PACKING.

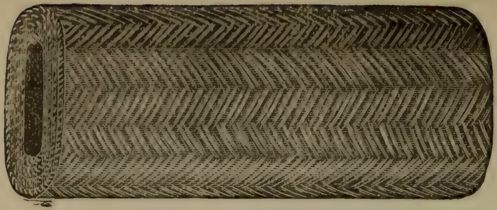


Fig. 1786.

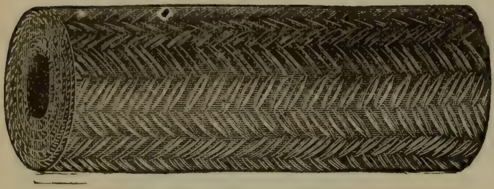


Fig. 1787.

GUM CORE PACKING.

No. 1 Diamond is made oblong in shape, with pure rubber core and best quality of flax yarn. We guarantee this brand of packing to be of the best.

Per pound $0.60

No. 2 Diamond is made round in shape, with pure rubber core and best quality flax yarn.

Per pound $0.50

Put up in boxes of five to ten pounds each, or on reels 25 to 50 pounds. Both packings are thoroughly lubricated.

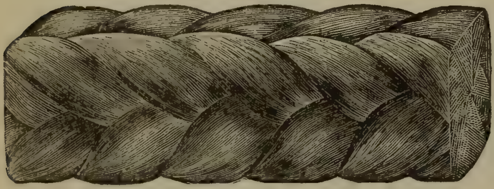


Fig. 1788.

SQUARE FLAX PACKING.

Made on improved braiding machines, from long line Russian flax; this packing is perfectly constructed and thoroughly lubricated, no better goods are produced.

No. 1	Per lb., $0.50
" 2	" .45

Both are put up in boxes of five to ten lbs. each.

GARLOCK PACKING.

Garlock's Spiral Packing	Per lb., $1.20
" Ring "	" 1.20
" Sectional Ring Packing	" 1.20

RAINBOW PACKING.

Made in Rolls about 200 lbs. each, $\frac{1}{32}$, $\frac{1}{16}$, $\frac{3}{32}$, $\frac{1}{8}$, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$ inch	Per lb., $0.80

USUDURIAN PACKING.

Usudurian Sheet, $\frac{1}{32}$ to $\frac{1}{4}$ inch thick	Per lb., $0.80

HEMP PACKING.

In 25, 50 and 100 lb. Coils.

Italian "A"	Per lb., $0.15
" "B"	" .14
" "X"	" .12
American	" .15
Russia	" .25
Square Hemp Braided	" .30

DIAGONAL PACKING.

For Mine Pumps, etc., all sizes	Per lb., $1.00

"EUREKA" PISTON PACKING.

For Steam.

Oval, with rubber centre, all sizes	Per lb., $0.80

In 5 lb. Boxes.

GLOBE PACKING.

Sizes $\frac{1}{2}$ inch and less	Per lb., $1.20
" over $\frac{1}{2}$ inch	" 1.00

ECONOMY PACKING.

All sizes	Per lb., $0.60

CLIMAX PACKING.

All sizes	Per lb., $0.15

EAGLE PACKING.

All sizes	Per lb., $0.15

AJAX PACKING.

All sizes	Per lb., $0.12

EMPIRE PACKING.

All sizes	Per lb., $0.30

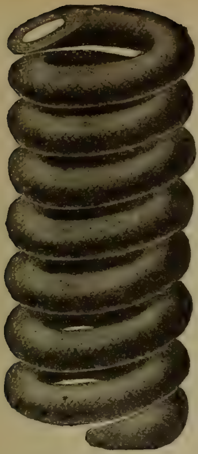


Fig. 1790.

PEERLESS

SPIRAL PISTON AND VALVE ROD PACKING.

Put up in paper boxes, weights and lengths as follows:

Diam.	Feet.	Pounds.	Diameter.	Feet.	Pounds.
¼	84	3	⅞	24	7¾
5/16	72	3¼	15/16	24	8½
⅜	72	4½	1	24	10
7/16	60	4	1⅛	12	6½
½	36	4½	1¼	12	7¼
9/16	36	5½	1⅜	12	8½
⅝	36	7	1½	12	10
11/16	24	5	1⅝	12	12¼
¾	24	5½	1¾	12	14¾
13/16	24	6½	2	12	18

When first put in, screw glands up with wrench to shape packing, take 2 or 3 turns; release glands; then screw them up with thumb and forefinger only until packing is fully expanded. Excellent for high speed engines. Price, per lb., 80 cents.

HONEST JOHN

HYDRAULIC RAINBOW CORE PACKING.

For Water and Hydraulics.

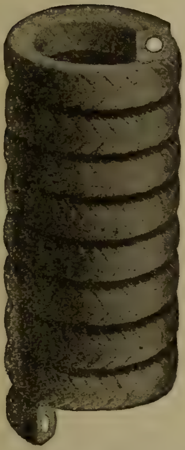


Fig. 1791.

Put up in Boxes. Weights and lengths as follows:

Diameter.	Contents.	Weight.
¼ inch	48 feet	2¾ lbs.
⅜ “	48 “	4½ “
½ “	48 “	7 “
⅝ “	24 “	5¾ “
¾ “	24 “	8¾ “
⅞ “	12 “	5½ “
1 “	12 “	6¾ “
1⅛ “	24 “	17½ “
1¼ “	24 “	20¾ “
1⅜ “	24 “	24¾ “
1½ “	24 “	29¼ “
1⅝ “	24 “	36¼ “
1¾ “	24 “	38¼ “
1⅞ “	24 “	44½ “
2 “	24 “	49½ “

Price, $1.00 per lb.

This packing is made both straight and in spiral form.

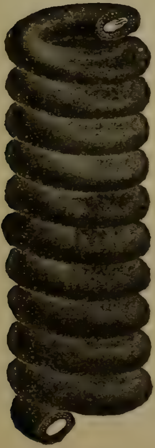


Fig. 1792.

HERCULES COMBINATION

METALLIC STOP VALVE PACKING.

Put up in boxes. Weights and lengths as follows:

Diameter.	Contents.	Weight
¼ inch	24 feet	1¾ lbs.
⅜ “	24 “	3¼ “
½ “	12 “	2¾ “
⅝ “	12 “	4¼ “
¾ “	6 “	3 “
⅞ “	6 “	3½ “
1 “	6 “	4¾ “
1⅛ “	6 “	6 “
1¼ “	6 “	7½ “

Keeps the stem absolutely clean. Always tight.

Price, $2 50 per lb.

This packing is made both straight and in spiral form

MILLER'S SOAPSTONE ACKING

Is a twisted rope of cotton yarn and soapstone, with a braided cotton cover, and is an excellent cheap packing.

Put up in coils of about 100 lbs. each . . . . Per lb., $0.12

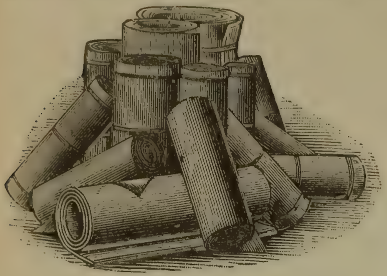


Fig. 1793.

STEAM PACKING.

CLOTH INSERTION.

Cloth on one or both sides.

Thickness.	One-Ply. Per Lb.	Two-Ply. Per Lb.	Three-Ply. Per Lb.	Four-Ply. Per Lb.
$\frac{1}{64}$ inch.	$0.70	. . .	. . .	. . .
$\frac{1}{32}$ “	.65	. . .	. . .	. . .
$\frac{1}{16}$ “	.60	.63	.66	. . .
$\frac{3}{32}$ “	.55	.58	.61	. . .
$\frac{1}{8}$ “	. . .	.55	.58	.61
$\frac{3}{16}$ “	. . .	. . .	.55	.58
$\frac{1}{4}$ “	. . .	. . .	. . .	.55

There is one-ply of cloth to every $\frac{1}{16}$ inch thickness. Each cloth, whether insertion or on outside, to count as one-ply.

Three cents per pound additional will be charged for each extra ply of cloth.

PURE SHEET PACKING OR VALVE GUM.

Pure Sheet Packing or Valve Gum is made 40 inches in width, and of any thickness or length desired.

Per lb. $1.40

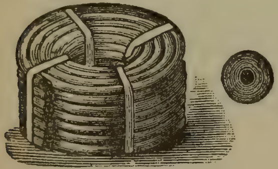


Fig. 1794.

PISTON PACKING. (TUCK'S.)

ROUND PISTON PACKING.

Per lb. $0.85

Made in lengths of 20 feet, from $\frac{1}{4}$ to 2 inches diameter.

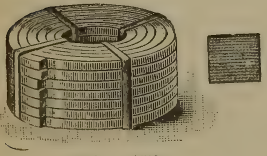


Fig. 1795.

SQUARE PISTON PACKING.

Per lb. $0.85

Made in lengths of 20 feet, from $\frac{1}{4}$ to 2 inches.

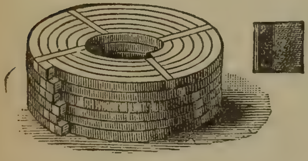


Fig. 1796.

SQUARE PISTON PACKING WITH RUBBER BACK.

Per lb. $1.00

Made in lengths of 20 feet from $\frac{1}{4}$ to 2 inches.

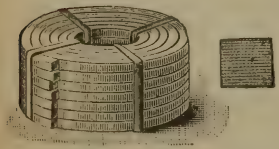


Fig. 1797.

SPECIAL HYDRAULIC OR PUMP PISTON PACKING.

Per lb. $1.00

Made from a very fine and closely woven duck, and in lengths of 20 feet, from $\frac{1}{4}$ to 2 inches.

SELDEN'S PACKING.

In 10 and 20 Foot Coils.

Rubber Core	$0.60
Without Rubber Core	.50

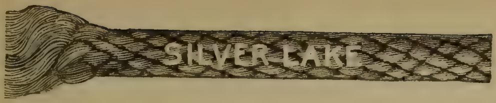


Fig. 1798.

SOLID BRAIDED

RAILROAD BELL CORD.

Fancy Cotton.

The regular style is drab in color, with a spiral pattern in red, yellow and blue. Special styles can be made to order. In coils of 1,000 feet each, unless otherwise ordered.

No. 8 ($\frac{1}{4}$-inch diam.)	45 cts. per lb.
" 9 (9-32 inch diam.)	45 " "

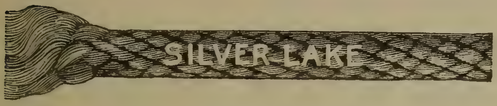


Fig. 1799.

SOLID BRAIDED

RAILROAD BELL CORD.

Plain Colors.

In coils of 1,200 feet each,
or otherwise as ordered.

Sizes.

Number	6	7	8	9	10
Inches diam.	$\frac{3}{16}$	$\frac{7}{32}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{5}{16}$

A

White Cotton	35 cts. per lb.
Drab Cotton	40 " "
Mahogany Cotton, air signal	45 " "
Italian Hemp	40 " "

B

White Cotton	30 cts. per lb
Drab Cotton	35 " "

RAILROAD BELL CORD.

Drab, with Italian Hemp Centre	35 cts. per lb.
Special Braided	20 " "
India, No. 1	18 " "
" No. 2	16 " "
Twisted Hemp	15 " "

ENGINE BELL CORD.

Drab Cotton, $\frac{3}{8}$-inch diameter	40 cts. per lb.

TROLLEY CORD.

Water-proof, No. 10 ($\frac{5}{16}$-inch diameter)	30 cts. per lb.

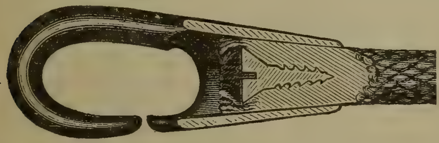


Fig. 1800.

BELL CORD COUPLINGS.

Size for No. 8 cord unless ordered for No. 9.

Prices—Complete with Screws:

Japanned (mal. iron)	$0.60 cts. per doz. hooks
Brass	1.00 " " " "
Nickel-plated (brass)	1.50 " " " "

Directions—Draw the end of the Cord through the Coupling, and insert the screw far enough to bury its head. Then pull the Cord back into place.

SILVER LAKE PACKING.

Silver Lake Packing requires no oil, which with hemp packing is a source of much expense and waste. It requires less attention and fewer renewals than hemp; does not cause such frequent annoyance by giving out at the wrong time; and does not score the rods—a great objection to hemp.

Silver Lake Packing is very light weight, making its cost per foot less than other manufactured packings. Put up in coils of about 100 lbs. each, . 20 cts. per lb.

LOCOMOTIVE PACKING

Is a modification of Silver Lake Packing, being saturated with a material which fits it for the needs of those engineers who want a cotton packing containing grease, and particularly adapts it for either pumps, valve stems or piston rods.

Put up in coils of about 100 lbs each, ... 20 cts. per lb.

BURLAPS.

Weight	7 oz.	8 oz.	9 oz.	10 oz.	11 oz.	12 oz.
Price per yard, 40-inch	$					
" " " 48 "						
" " " 76 "						

WEBBING.

Width, inches	1¾	3	3½	4
Price per piece, 75 yards	$			

TOW.

Choice N. Y. State, in 300 lb. bales	Per lb., $
No. 1 Western, " 100 " "	" "

TWINE.

Stitching Twine, Nos. 37 and 47 Ossawan	Per lb.,	$0.54
" " " 14 " 12 "	" "	.45
" " " 10 "	" "	.35
Spring " Best Russian Hemp	" "	.22
" " India Laid	" "	.16

HEMP TWINES.

Size		4½	5	6
C. X. Russian	Per lb.,	$0.14	.15	.14
C. X. American	" "	.13	.14	.13
D. India	" "	.11½	.12½	.11½

SPONGES.

Best Selected, large	Per lb., $
Selected, medium	" "
Common	" "

RATTAN CAR SEAT BEATERS.

Large	Per doz.,	$6.00
Medium	" "	4.00

WOOD ALCOHOL.

Extra Refined, 95 per cent.	Per gal., $
Special " 97 " "	" "
Alcholene	" "
Columbian Spirit	" "

SPIRITS, TURPENTINE.

In Barrels, shipping order	Per gal., $
Spirits, in cases, "Pine Tree" Brand, two 5-gal. cans	" "

LINSEED OIL.

Raw	Per gal., $
Boiled	" "

CASTOR OIL FOR LUBRICATING.

In Barrels	Per gal., $
In 5-gal. Cans	" "

Packed two 5-gal. cans and four 5-gal. cans in a case.

WIDE DUCK LIST.

Nos.	0	1	2	3	4	5	6	7	8	9	10	11	12
26 in.	$0.40	$0.38	$0.35	$0.33	$0.31	$0.29	$0.27	$0.27	$0 25	$0.23	$0.21	$0.19	$0.17
28 "	.43	.40	.38	.36	.34	.31	.29	.29	.27	.25	.22	.21	.19
30 "	.46	.43	.41	.38	.36	.34	.31	.31	.28	.27	.24	.22	.20
32 "	.49	.46	.44	.41	.38	.36	.33	.33	.30	.28	.26	.24	.21
34 "	.52	.49	.46	.44	.41	.38	.35	.35	.32	.30	.27	.25	.23
36 "	.55	.52	.49	.46	.43	.40	.38	.37	.34	.32	.29	.26	.24
38 "	.58	.55	.52	.49	.46	.43	40	.39	.36	.34	.30	.28	.25
40 "	.61	.58	.54	.51	.48	.45	.42	.41	.38	.35	.32	.29	.26
42 "	.64	.60	.57	.54	.50	.47	.44	.43	.40	.37	.34	.31	.28
44 "	.67	.63	.60	.56	.53	.49	.46	.45	.42	.39	.35	.32	.29
46 "	.70	.66	.62	.59	.55	.51	.48	.47	.43	.41	.37	.34	.30
48 "	.73	.69	.65	61	.58	.54	.50	.49	.45	.43	.38	.35	.32
50 "	.76	.72	.68	64	.60	.56	.52	.51	.47	.44	.40	.37	.33
52 "	.79	.75	.71	66	62	.58	.54	.53	.49	.46	.41	.38	.34
54 "	.82	.78	73	.69	.65	.60	.56	.55	.51	.48	.43	.40	.36
56 "	.85	.80	.76	.72	.67	.63	.58	.58	.53	.50	.45	.41	.37
58 "	.88	.83	.79	.74	.69	.65	.60	.60	.55	.51	.46	.42	.38
60 "	.91	.86	.81	.77	.72	.67	.62	.62	.57	.53	.48	.44	.40
62 "	.94	.89	.84	.79	.74	.69	.64	.64	.58	.55	.49	.45	.41
64 "	.97	.92	.87	.82	.77	.72	.66	.66	.60	.57	.51	.47	.42
66 "	1.00	.95	.90	.84	.79	.74	.69	.68	.62	.58	.53	.48	.44
72 "	1.09	1.03	.98	.92	.86	.80	.75	.74	.68	.64	.57	.53	.47
74 "	1.12	1.06	1.00	.94	.89	.83	.77	.76	.70	.65	.59	.54	.49
76 "	1.15	1.09	1.03	.97	.91	.85	.79	.78	.72	.67	.61	.56	.50
80 "	1.21	1.15	1.08	1.02	.96	.89	.83	.82	.75	.71	.64	.58	.53
84 "	1.32	1.25	1.18	1.11	1.04	.97	.90	.89	.82	.77	.69	.63	.57
92 "	1.54	1.46	1.38	1.30	1.22	1.14	1.06	1.04	.96	.89	.80	.74	.66
96 "	1.71	1.62	1.53	1.44	1.35	1.26	1.17	1.15	1.05	.98	.88	.81	.73
108 "	1.93	1.83	1.73	1.63	1.53	1.42	1.32	1.29	1.19	1.11	1.00	.92	.82
120 "	2.14	2.03	1.92	1.80	1.69	1.58	1.47	1.44	1.32	1.23	1.11	1.05	.95

ENAMELED DUCK.

	Black.	Green.	Brown.
38 inches wide, per yard	$0.23	$0.33	$0.33
45 " "	.25	.35	.35
50 " "	.27	.37	.37
54 " "	.30	.40	.40
60 " "	.45	.55	.55

MOHAIR PLUSH.

FOR RAILROADS AND CAR BUILDERS.

Samples and prices on application. Furnished in crimson, scarlet, green and old gold, and either low pile, medium pile or high pile, as desired.

Prices per piece of 40 yards, $45 to $100, 24 inches wide. Other widths to order, 28, 30 and 36 inch.

CURLED HAIR.

Gray, No. 1 Drawings, picked,	$0.45	Black, Sup. Extra Drawings, rope picked .	$0.50
" " 1 " rope picked	.40	" A picked	.45
" 4X picked	.37	" 4X "	.40
" 3-0 "	.36	" 000A "	.36
" 0 "	.33	" 1A special	.33

BLACK CURLED TAMPICO.

To take the place of Moss for parties requiring something better.

Per lb. $0.10

MOSS.

Best Double Ginned La., XXXX, per lb.	$0.07½
" " " XXX, "	.06½

150 lbs. in a bale.

PINE TAR.

Per Barrel	$
" " Iron Hooped	
In cases, two 5-gal. cans, per case	

COAL TAR.

In Oil Barrels	Per bbl,	$

PITCH.

In Barrels, 200 lbs, 220 lbs., 240 lbs.	Per bbl.,	$

ROSIN.

F. Good, No. 2, about 500 lbs. in bbl.	Per 280 lbs.,	$

ROSIN OIL.

First Run	Per gal.,	$
Second "	" "	$
Third "	" "	$

BONE BLACK.

Small Lumps, Carbonized for Case Hardening, about 230 lbs. to bbl.	Per lb,	$0.06
Powdered	" "	.03

PLASTER PARIS.

In Barrels	Per lb.,	$0.03
In small lots	" "	.03½

PEARLINE.

In Boxes, 36 lbs.	Per box,	$

BON-AMI.

In ¼, ½ and 1 Gross Boxes	Per gross,	$

SAPOLIO.

In ½ Gross Boxes	$5.00	In ¼ Gross Boxes	$2 50

BABBITT'S SOAP.

"Best," 100 Cakes in a box, weight 75 lbs.	Per box,	$

Fig. 1801.

LePAGE'S LIQUID GLUE.

Patent Tin Cans for Mechanics.

½-Pints, 2 doz. in case	Per doz.,	$3.25
Pints 1 " " "	" "	5.50
Quarts 1 " " "	" "	9.50

In Tin Cans for Mechanics and Manufacturers.

½ Gallons, ½ doz. in case	Per doz.,	$15.00
1 Gallon, ½ " " "	" "	27.00

PUTZ LIQUID POLISH.

½-Pint size, per dozen	$2.00	½-Pint size, per gross	$22.00

"TRIUMPINE" POLISHING PASTE.

In Boxes, pounds	½	1	2½	5
Per lb.	$0.30	.30	.30	.30
In lots of 50 lbs.	$	100 lbs., $	200 lbs., $	500 lbs., $

PUTZ POMADE, "KAISER BRAND."

In Boxes, pounds		½	1	5
Per lb.		$0.20	.20	.20
In lots of 50 lbs.	$	100 lbs., $	200 lbs., $	500 lbs., $

OAKUM.

Brands	"Navy"	"U. S. Navy"	"Best"
Per lb.	$	$	$

In 50-lb. Bales.

TINNED GLUE POTS.

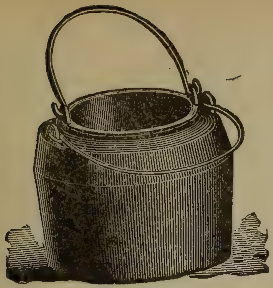


Fig. 1802.

No.	0000	000	00	0	1
Capacity	1 gill	½ pint	3 gills	1 pint	1½ pint
Per dozen	$4 50	5.00	5.50	6.00	6.75
No.	2	3	4	5	6
Capacity, quart	1	1½	1¾	2	2½
Per dozen	$8.40	10.26	12.42	14.58	16.94

GLUE BRUSHES.

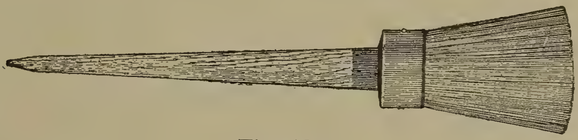


Fig. 1803.

Made of gray bristles with iron ferrule pinned to the handle.

No.	6	5	4	3	2	1
Per doz.	$4.25	5.00	5.60	7.20	10.00	11.00

Assorted 1 to 6, one doz. in a box, per doz., $7.12.

GLUE BRUSHES—IRON HANDLES.

All Bristles, Brass Ferrules.

No.	20	30	40	50	60	70
Per dozen	$5 00	6.00	6.50	7.50	8.50	10.60

Assorted, 20 to 70, one doz in a box, per doz., $7.35.

GLUE.

Patternmakers', white, in bbls. about 130 to 150 lbs., per lb.	$
Cabinetmakers', in bbls about 175 lbs., per lb.	
Carpenters', " " 200 " "	
Common, " " 275 " "	

PURE GROUND AND BOLTED PUMICE STONE.

Selected Lump, "P. C," in bbls. about 100 lbs., per lb.	$0.12
" No. 3, " " 100 " "	.08
Ground and bolted, 1st quality, "F. F," bbls. 150 to 300 lbs., per lb.	.03½
" " 2d " " " 150 to 300 " "	.02½

LUMP AND GROUND ROTTEN STONE.

Lump in bbls. about 100 lbs., per lb.	$0.10 to $0.24
Ground " " 225 " "	.05
" in pkg " 25 " "	.06½

TRIPOLI.

Lump in barrels, per lb.	$0.04
Ground " "	.03½

In ton lots, special price.

ROUGE.

Kind	Nickel.	Hard.	Soft.
Per lb.	$0.20	0.50	0.60

POLISHING COMPOSITION.

Red, in sticks, per lb., $0.12. White, in sticks, per lb., $0.12.

BORAX.

Lump, in bbls.,	370 to 380 lbs.	Per lb., $
“ “ cases,	50 or 100 “	“
Powdered, in bbls.,	330 “	“
“ “ “	50 or 100 “	“

CHALK.

White Lump, in bulk	Per lb., $0.02½
“ Carpenters, prepared	Per gross, $
Red “ “	“
Blue “ “	“

Half gross in a box. 25 gross in a case.

CHALK CRAYONS.

White	Per gross, $
“ Empire Brand	“
“ Dustless	“

SPUN COTTON.

Brands	XL	6X	3X
Per lb.	$	$	$

Put up in rolls 1 to 1½ lbs., in bales of 125 lbs.

BUNTING, FAST COLORS.

Railway, Red, White, Green and Blue	Per roll, $
Standard	“
Army	“
Navy	“
Government	“

SIGNAL FLAGS, ANY COLOR.

Size	18x18	18x20	18x24
Per doz.	$1.35	1.40	1.50

Other sizes to order.

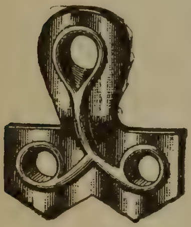


Fig. 1804.

BERGER STAR BUCKET EARS.

Size, Nos.	1	2	3	4	5	6	7
Per gross	$0.35	50	.65	.90	1.30	1.60	2.25

HEAVY STAR EARS.

Size, Nos.		1	2	3	4
Black	Per lb., $				
Tinned	“				

All Star Ears are countersunk for flush Rivet Heads.

VULCABESTON MOULDED UNION WASHERS.

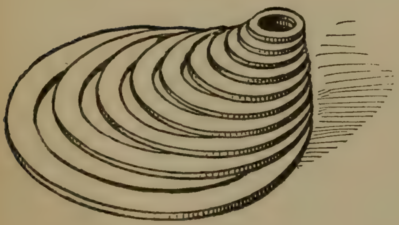


Fig. 1805.

				1/8 thick, Per 100.	1/16 thick, Per 100.
13/16 in.	x 17/32 in.	for 1/4	in. pipe	$2.00	$1.50
1 in.	x 5/8 in.	“ 3/8	“	2.25	1.75
1 1/8 in.	x 3/4 in.	“ 1/2	“	2.50	2.00
1 7/16 in.	x 15/16 in.	“ 3/4	“	2.75	2.25
1 11/16 in.	x 1 3/16 in.	“ 1	“	3.25	2.75
2 1/16 in.	x 1 7/16 in.	“ 1 1/4	“	4.00	3.25
2 1/2 in.	x 1 13/16 in.	“ 1 1/2	“	5.00	3.75
2 7/8 in.	x 2 1/4 in.	“ 2	“	5.50	4.25
3 1/2 in.	x 2 11/16 in.	“ 2 1/2	“	8.00	6.75
4 3/16 in.	x 3 1/4 in.	“ 3	“	10.00	8.00

METALS.

BABBITT METAL.

Original Formula. Our own Make	Per lb., $

Babbitt Metals of Lower Grades Furnished to Order.
Compositions of Any Formula Made to Order.

SOLDER.

Strictly Half and Half	Per lb., $
Half and Half	"
Plumbers' No. 1 Block Solder	"

COPPER.

"Lake" Ingot	Per lb., $
Ingot	"

BLOCK TIN.

Large Pigs, about 105 lbs.	Per lb., $
Small " " 30 "	"
" Bars, " 1½ "	"

ANTIMONY.

Cookson's	Per lb., $
Hallet's	"

LEAD.

Pigs, about 80 lbs	Per lb., $

ANTIMONIAL LEAD.

In Pigs, 70 to 80 lbs	Per lb., $

MAGNOLIA METAL.

In Boxes, about 56 lbs. to a box	Per lb., $0.25

SHEET ZINC.

Regular size 36x84, No. 9, 14 lbs., per sheet, . . .	Per lb., $

Other Sizes and Weights to Order.

SOLDERING COPPERS.

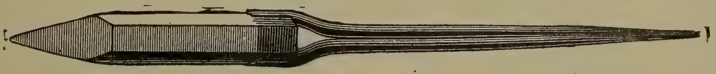


Fig. 1806

WITH SQUARE POINTS FOR COMMON USE. WITH FLAT POINTS FOR BOTTOMS

HATCHET COPPERS FOR PLUMBERS' USE.

Nos.	1	1½	2	2½	3	4	5	6	7	8	10	12	14	
Weight	1	1½	2	2½	3	4	5	6	7	8	10	12	14	pounds per pair.

Soldering Coppers . . . . Per lb., $0.40

SOLDERING PAN.

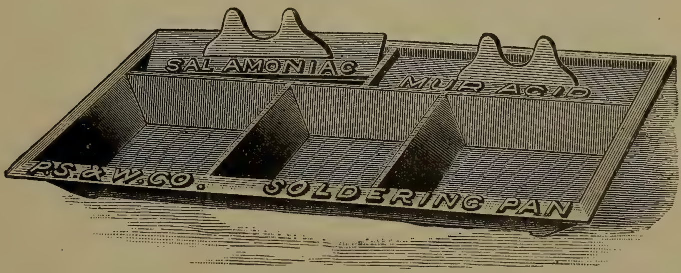


Fig 1807.
CAST IRON, PLAIN.

Soldering Pan for Tinners' Use	per dozen, $9.00

SHEARS.

HAND SHEARS OR SNIPS. LEFT HAND.

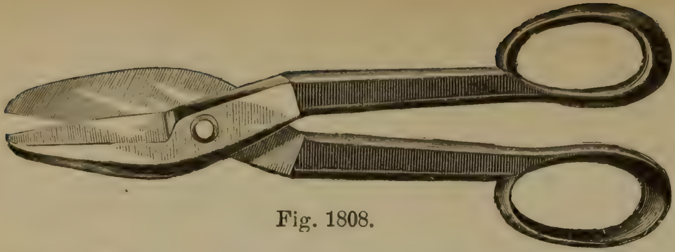


Fig. 1808.

No.		Each	No.		Each
No. 6½.	Hand, cut 4½ inches, each,	$3.00	No. 9.	Hand, cut 3 inches, each,	$1.50
" 7.	" " 4 " "	2.50	" 10.	" " 2½ " "	1.40
" 8.	" " 3½ " "	2.00	" 11.	" " 2 " "	1.25
" 06½.	" " 4½ " extra heavy, entire length, 18 inches . .	4.50			
" 12.	Carpenters, full length, 7½ in., cut, 2½ in.	1.50			

CIRCULAR HAND SHEARS.

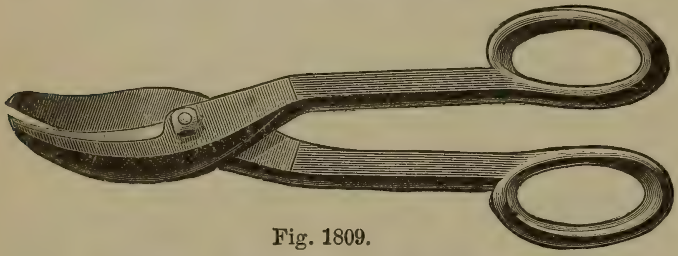


Fig. 1809.

No.		Each	No.		Each
No. 7.	Circular, Hand, each .	$3.50	No. 9.	Crcular, Hand, each .	$2.50
" 8.	" " " .	3.00	" 10.	" " " .	2.25

STRAIGHT HANDLE SHEARS.

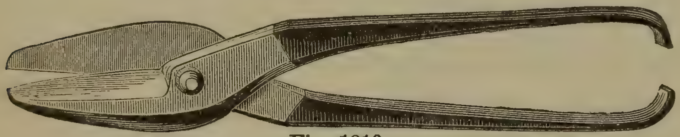


Fig. 1810.

No.		Each	No.		Each
No. 7.	Hand, cut 4 inches, each,	$2.50	No. 9.	Hand, cut 3 inches, each,	$1 50
" 8	" " 3½ " "	2.00	" 10.	" " 2½ " "	1.40

ROOFERS' SHEARS.

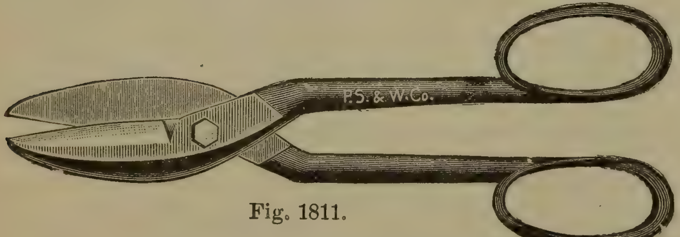


Fig. 1811.

No.		Each.
80.	Hand, cut 3½ inches .	$2.00
90.	Hand, cut 3 inches .	1.50
100.	Hand, cut 2½ inches .	1.40

BENCH SHEARS.

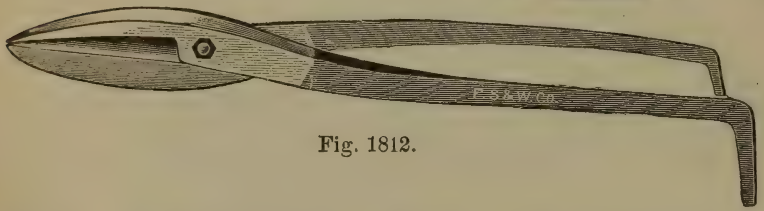


Fig. 1812.

No.		Each	No.		Each
No. 00.	Cut 12 inches, each .	$13.50.	No. 3.	Cut 8⅜ inches, each .	$6.00
" 0.	" 10½ " " .	12.00.	" 4.	" 8 " " .	5 00
" 1.	" 9 " " .	8.00.	" 5.	" 7 " " .	4 00
" 2.	" 8⅝ " " .	7.00.	" 6.	" 6 " " .	3.50

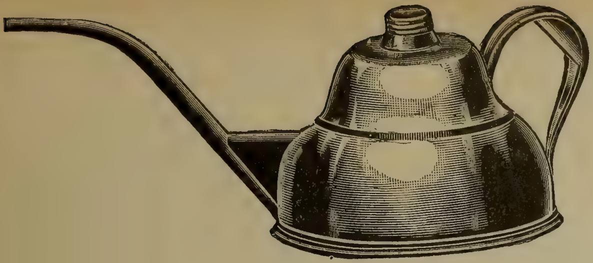


Fig. 1813.
See also page 102.

OIL FILLERS OR FEEDERS.

	Per Dozen.
1 Pint, Brass or Copper,	$12.00
1½ " " "	14.00
2 " " "	16.00
3 " " "	20.00
4 " " "	24.00
Above with long Spouts, Extra . . .	3.00
1 Pint, Zinc . .	4.00
1½ " " . .	5.00
1 Quart, Zinc . .	6.00
1 " Tin . .	3.50
2 " " . .	5.00

TALLOW CANS.

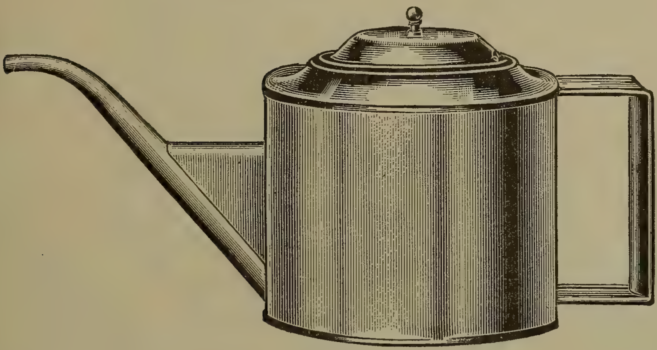


Fig. 1814.

	Per Dozen.		Per Dozen.
1 Quart, Tin . . .	$9.00	1 Quart, Brass or Copper, . .	$18.00
2 " " . . .	12.00	2 " " " . .	24.00
3 " " . . .	18.00	3 " " " . .	30.00
4 " " with Bail .	24.00	4 " " " with Bail	42.00

MEASURES.

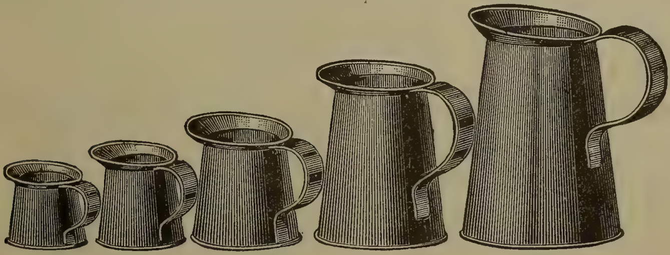


Fig. 1815.

	Tin.	Copper, Tinned Inside.
¼ Pint, per doz. .	$0.80	$4.00
½ " " " .	.90	5.00
1 " " " .	1.20	7.00
1 Quart, " " .	1.50	9.00
2 " " " .	3.00	12.00

	Tin.	Copper, Tinned Inside.
4 Quart, per doz. .	$4.50	$17.00
2 Gal., with Bail, each	1.50	3.25
3 " " " "	2.00	4.50
5 " " " "	2.50	6.00

LOCOMOTIVE OILERS.

Figs. 1816 and 1818 are Sectional Views, Showing Inside.

			Fig. 1816.		Per Dozen.
1	Pint,	Brass,	with	Valve	$36.00
2	"	"	"	"	48.00
3	"	"	"	"	60.00
1	"	"	No.	"	24.00
2	"	"	"	"	36.00
3	"	"	"	"	48.00
1	"	Tin,	with	"	24.00
2	"	"	"	"	33.00
3	"	"	"	"	45.00
1	"	"	No.	"	12.00
2	"	"	"	"	21.00
3	"	"	"	"	33.00

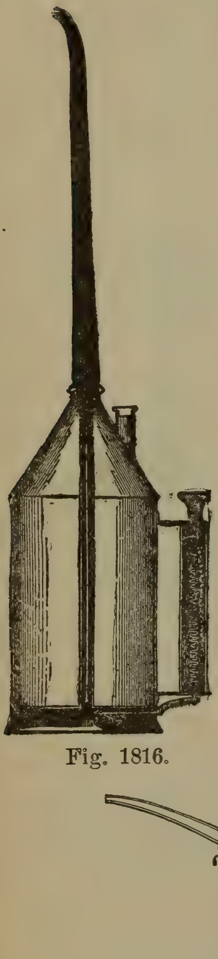


Fig. 1816.

SPOUTS FOR UPRIGHT OILERS.

	Tin.	Brass.
14 inches, per dozen	$5.00	$8.00
24 " " "	8.00	10.00
30 " " "	12.00	14.00
36 " " "	16.00	18.00

Fig. 1817.

WITH DETACHABLE SPOUT.

The flow of oil from this can is easily regulated by the Pneumatic Thumb Valve (D).

			Per Dozen.
1	Pint,	Tin	$14.00
2	"	"	16.00
1	"	Brass	20.00
2	"	"	24.00

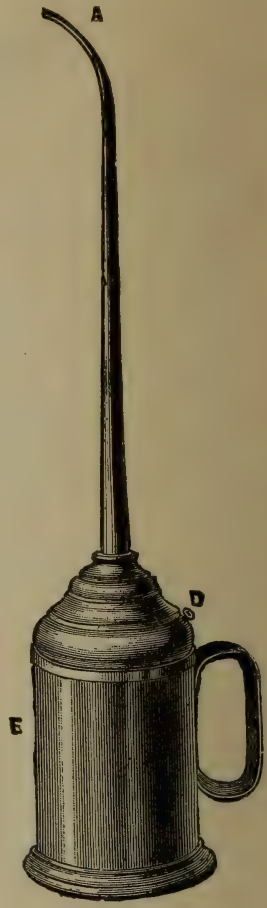


Fig. 1817.

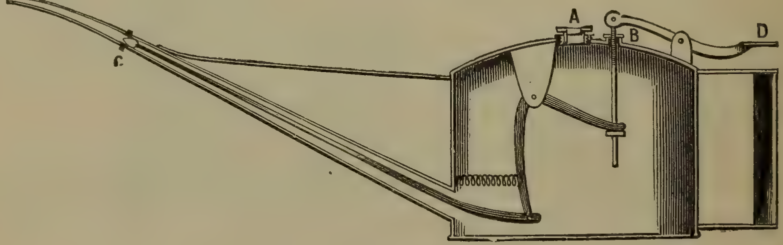


Fig. 1818.

					Per Dozen.
1	Pint,	Brass,	with	Valve	$36.00
2	"	"	"	"	48.00
1	"	"	No	"	24.00
2	"	"	"	"	36.00

					Per Dozen.
1	Pint,	Tin,	with	Valve	$24.00
2	"	"	"	"	33.00
1	"	"	No	"	12.00
2	"	"	"	"	21.00

See also page 101.

RAILROAD URINALS.

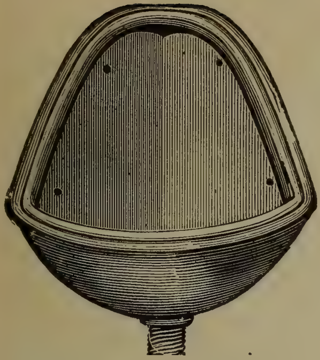


Fig. 1819.

Size 10¼x13 inches.

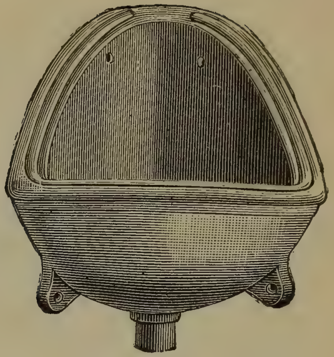


Fig. 1820

Fig.	No.	Description	Each
Fig. 1819.	No. 1.	High Back, with Screw Holes	Each, $4.25
“ 1819.	“ 1.	“ “ “ with Lip . .	“ 4.75
“ 1820.	“ 1.	“ “ “ and Tabs . .	“ 4.75
“ 1820.	“ 1.	“ “ “ “ and Lip	“ 5 10

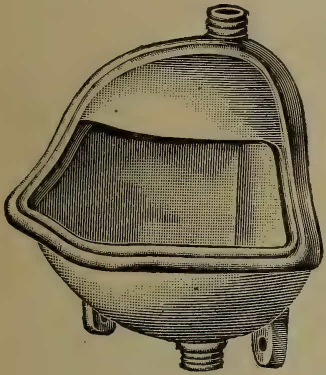


Fig. 1821.

Size 10¼x13 inches

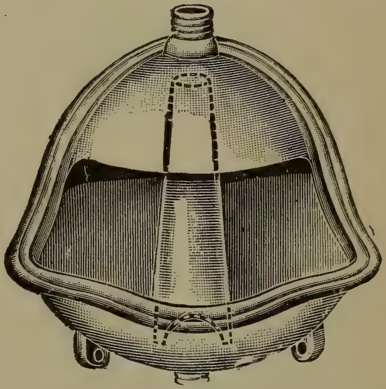


Fig. 1822.

Fig.	No.	Description	Each
Fig. 1821.	No. 1.	High Back, Screw Tabs, Hood Vent and Lip .	Each, $7.25
“ 1821.	“ 1.	“ “ “ without Lip	“ 6.25
“ 1822.	“ 1.	“ “ “ Lip and Vent Flue inside, each	8.80
Fig. 1822.	No. 1.	High Back, Screw Tabs, Hood Vent, no Lip and Vent Flue inside, each	7.00

Fig. 1823.

Size, 9x9¼ inches.

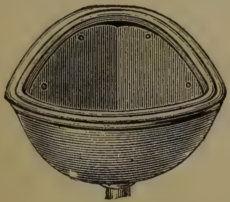


Fig. 1823.

No. 4. Each $2.75

Package Extra.

RAILROAD URINALS.

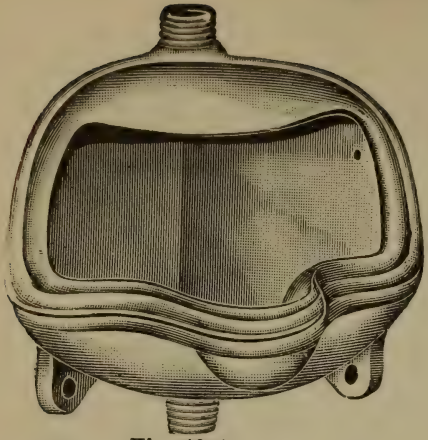


Fig. 1824.
Special, 9x11 inch, each, $7.25.

DRIP PANS.

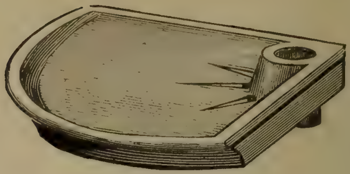


Fig. 1825.

No. 1.	11x11 inches, each	. .	$3.75
" 2.	12x12 " "	. .	3.75

FLOOR PIPES.

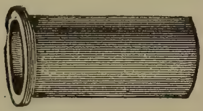


Fig. 1826.

URINAL PIPES.

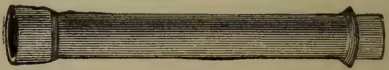


Fig. 1827.

BENT PIPE.

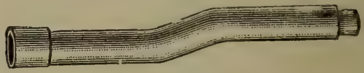


Fig. 1828.

Fig. 1826.

Length, extremes	9 inches
Diameter inside	$3\frac{1}{4}$ "
Diameter outside, top	$4\frac{3}{4}$ "
Diameter outside, bottom	$3\frac{3}{4}$ "
Price per dozen	$16.00

Fig. 1827–1828.

Diameter inside	$1\frac{3}{8}$ inches
Diameter outside, top	$2\frac{5}{8}$ "
Diameter outside, under flange	2 "

Fig. 1827. Urinal Pipes, 16, 18 and 20 inches long	Per doz.,	$24.00
" 1828. " bent, 16, 18 and 20 inches long	"	24.00

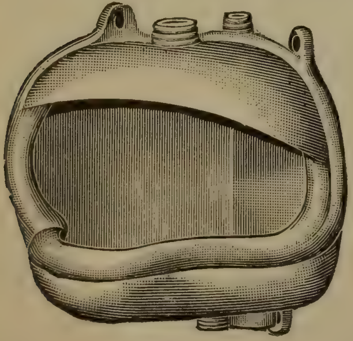


Fig. 1829.

BEDFORDSHIRE URINALS.

LIP, HOOD AND VENT.

Fig. 1829.

No. 1.	Corner, 12x12 inch, each	$12.00
" 2.	" 11x11 " "	10.00

BEDFORDSHIRE URINALS.

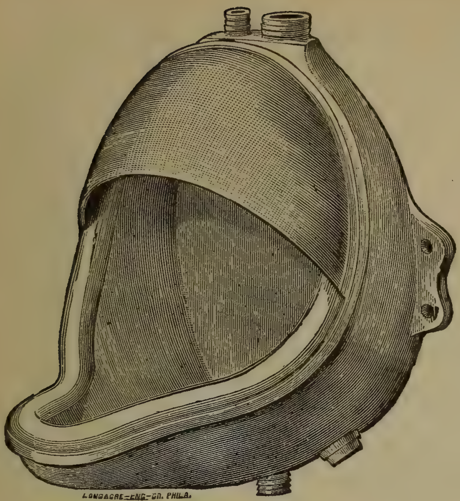

LONGACRE-ENG-CO. PHILA.

Fig. 1830.

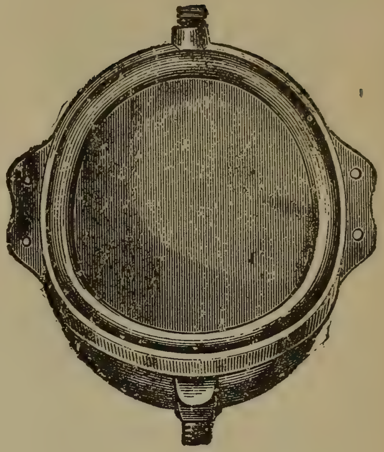


Fig. 1831.

Fig. 1830.	No. 1,	Flat (Lip, Hood and Vent)	15x17 inches, each,	$12.00
“ 1830.	“ 2,	“ “ “ “ “	13x15 “ “	10.00
“ 1831.	“ 1,	“ without Lip	15x17 “ “	8.00
“ 1831.	“ 2,	“ “ “	13x15 “ “	6.00
“ 1831.	“ 3,	“ “ “	12x14 “ “	5.00
“ 1831.	“ 1,	“ with “	15x17 “ “	10.00
“ 1831.	“ 2,	“ “ “	13x15 “ “	8.00
“ 1831.	“ 3,	“ “ “	12x14 “ “	7.00

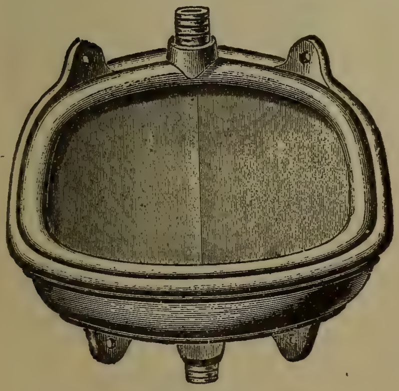


Fig. 1832.

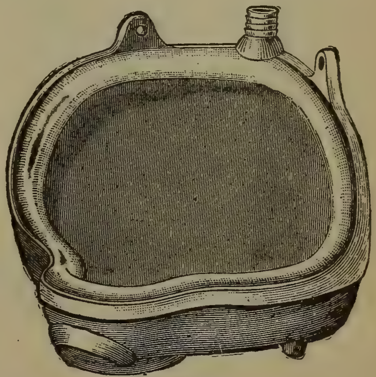


Fig. 1833.

Fig. 1832.	No. 1.	Corner	12x12 inches, each,	$8.00
“ 1832.	“ 2.	“	11x11 “ “	6.00
“ 1832.	“ 3.	“	10x10 “ “	5.00
“ 1833.	“ 1.	“ with Lip	12x12 “ “	10.00
“ 1833.	“ 2.	“ “ “	11x11 “ “	8.00
“ 1833.	“ 3.	“ “ “	10x10 “ “	7.00

Package Extra.

RAILROAD HOPPERS.

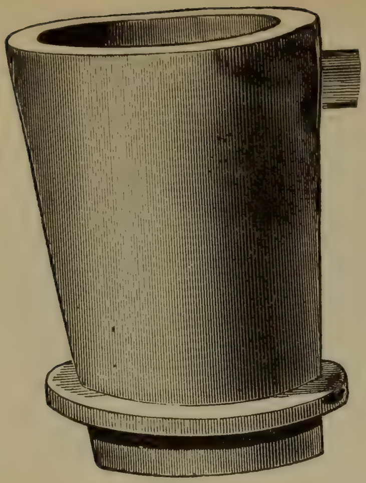


Fig. 1834.

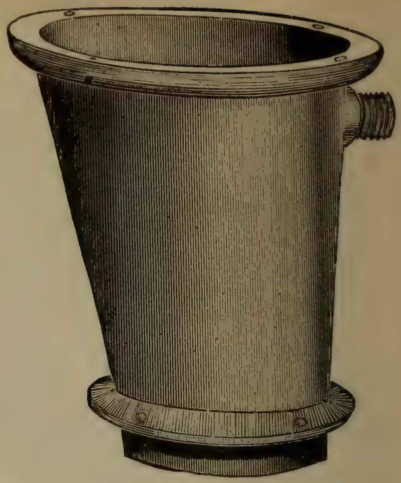


Fig. 1835.

Fig. 1834. Springfield.

Height from bottom of Flange	16½ inches
Top inside diameter	9½ “
Top outside “	12¼ “
Bottom outside, under Flange	7¼x10 “
Each	$8.70

Fig. 1835. English.

Height from bottom of Flange	16¾ inches
Top outside	13⅝x15½ “
Bottom outside, under Flange	8½x10¾ “
Each	$10.00

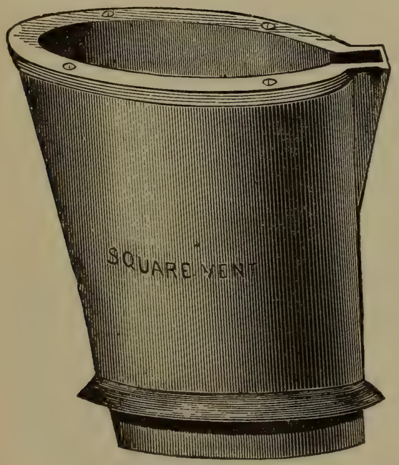


Fig. 1836.

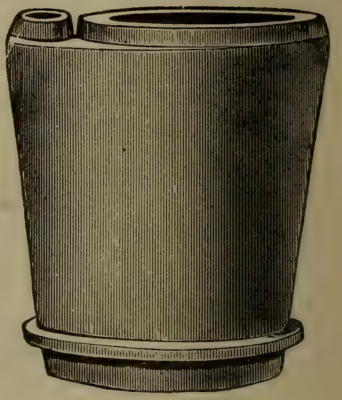


Fig. 1837.

Fig. 1836. Chute.

Height from bottom of Flange	17 inches
Top extremes	14¼x16¾ “
Bottom outside, under Flange	8¼x10¾ “
Each	$10.80

Fig. 1837. Special Vented.

Height from bottom of Flange	16 inches
Top inside	9x9¾ “
Top outside, not including vent, diameter	12 “
Top over all, including vent	15½ “
Bottom, outside under Flange, diameter	11¼ “
Each	$10,00

Package Extra.

RAILROAD HOPPERS.

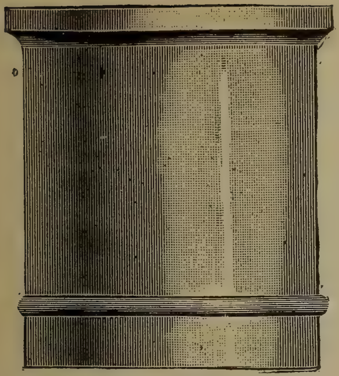


Fig. 1838.

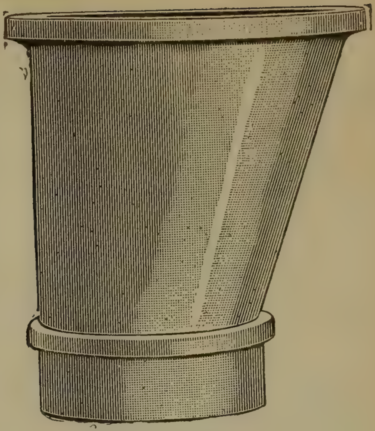


Fig. 1839.

FIG. 1838. OVAL.

Height from bottom of Flange	14¼ inches
Top outside	11¾x16 "
Bottom outside, below Flange	9¼x13½ "
Each	$8.00

FIG. 1839. OVAL TOP AND ROUND BOTTOM.

Height from bottom to Flange	14 inches
Top, outside	12x15½ "
Bottom, outside, below Flange	9¾ "
Each	$8.00

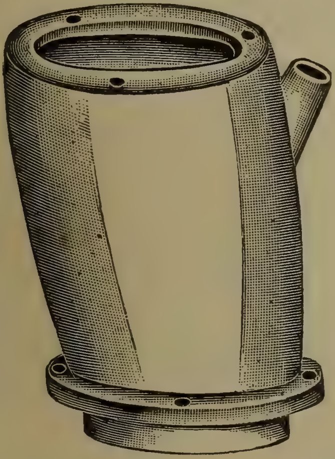


Fig. 1840.

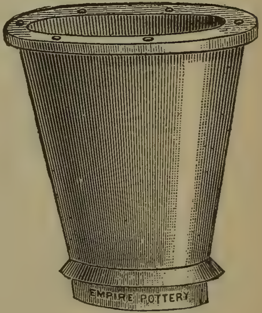


Fig. 1841.

FIG. 1840. SPRINGFIELD.

Height from bottom of Flange	16½ inches
Top, inside diameter	9¼ "
Top, outside diameter	12 "
Bottom, outside, under Flange	7¼x10½ "
Each	$8.70

FIG. 1841. No. 3 " B."

Height from bottom of Flange	15 inches
Top, outside	11 x16 "
Top, inside	8¼x13½ "
Bottom, outside, below Flange	5⅞x 9⅞ "
Each	$7.30

Package Extra.

ROUND PLUG BASINS.

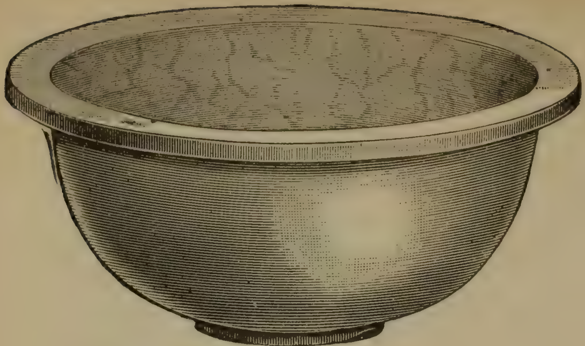


Fig. 1842.

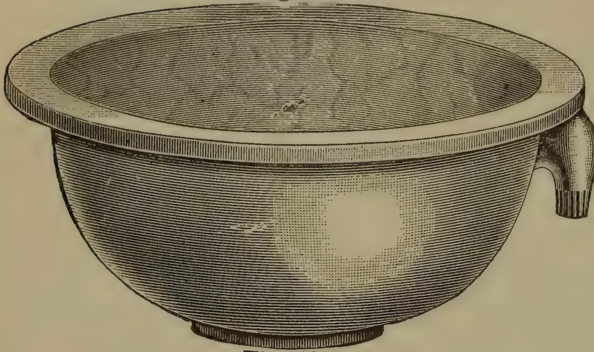


Fig. 1843.

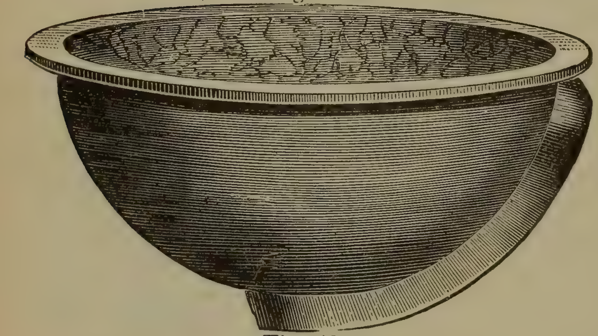


Fig. 1844.

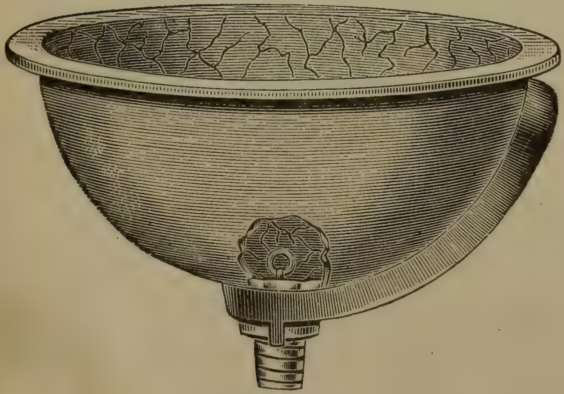


Fig. 1845.

NO OVERFLOW.

Fig. 1842.

Size, inches,	12	13	14
Price, each,	$1.00	1.00	1.00
Size, inches,	15		16
Price, each,	$1.50		2.00

COMMON OVERFLOW.

Fig. 1843.

Size, inches,	12	13	14
Price, each,	$1.00	1.00	1.00
Size, inches,	15		16
Price, each,	$1.50		2.00

PATENT OVERFLOW.

Fig. 1844.

Size, inches,	12	13	14
Price, each,	$1.25	1.25	1.25
Size, inches,	15		16
Price, each,	$2.00		2.50

PATENT OVERFLOW FOR RUBBER PLUG.

Fig. 1845.

Size, inches,	12	13	14
Price, each,	$1.50	1.50	1.50
Size, inches,	15		16
Price, each,	$2.50		3.00

Outside diameters are given. Actual outside diameters are ½ inch more than given.

Package extra.

DUDGEON IMPROVED ROLLER TUBE EXPANDER.

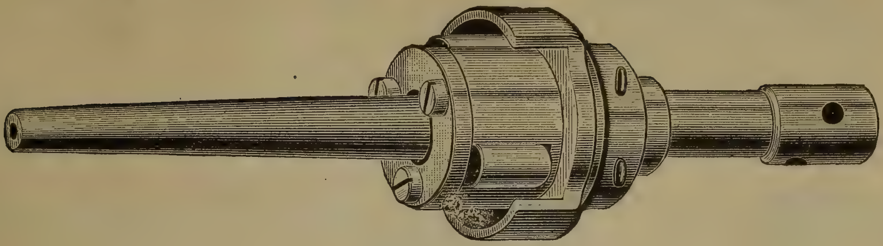


Fig. 1846.

THIS TOOL WILL EXPAND TWO SIZES UP TO TWO INCHES, AND THREE SIZES ABOVE, AS SHOWN ON LIST.

1⅝ and 1¾ inches	$20.00	3½, 3⅝ and 3¾ inches	$70.00
1¾ “ 1⅞ “	20.00	3¾, 3⅞ “ 4 “	75.00
1⅞ “ 2 “	25.00	4, 4⅛ “ 4¼ “	80.00
2, 2⅛ and 2¼ “	30.00	4¼, 4⅜ “ 4½ “	85.00
2¼, 2⅜ “ 2½ “	36.00	4½, 4⅝ “ 4¾ “	85 00
2½, 2⅝ “ 2¾ “	39.00	4¾, 4⅞ “ 5 “	90 00
2¾, 2⅞ “ 3 “	45.00	5, 5¼ “ 5½ “	100.00
3, 3⅛ “ 3¼ “	52.00	5½, 5¾ “ 6 “	105 00
3¼, 3⅜ “ 3½ “	60.00	6, 6¼ “ 6½ “	115.00

One Expander will answer for any thickness of Tube Sheet.

DUDGEON OLD-STYLE ROLLER TUBE EXPANDER.

THIS TOOL WILL EXPAND ONE SIZE TUBE ONLY, AS SHOWN ON LIST.

1¾ inches	$25.00	3¼ inches	$60 00
1⅞ “	25.00	3½ “	70 00
2 “	30.00	4 “	85.00
2¼ “	35.00	4½ “	100.00
2½ “	42.00	5 “	120.00
2¾ “	48.00	6 “	130.00
3 “	55.00	7 “	180.00

One Expander will answer for any thickness of Tube Sheet.

These Dimensions refer to the External Diameter of Tube.

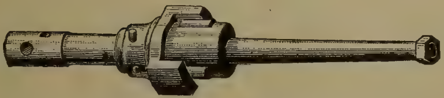


Fig. 1847.

ROLLER TUBE EXPANDER.

Diameter, inches	1	1¼	1½	1¾	1⅞	2	2¼	2½	2¾
Price, each	$10.00	10.00	10.00	10.00	10.00	10.00	12.00	14.00	16.00
Diameter, inches	3	3¼	3½	3¾	4	4¼	4½	5	6
Price, each	$18.00	20.00	23.00	25.00	30.00	35.00	40.00	50.00	60.00

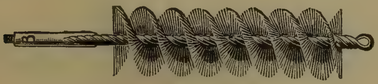


Fig. 1848.

SPIRAL TUBE BRUSHES.

Sizes are outside diameter of Tubes.

	1	1¼	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	4	4½	5	5½	6
Whalebone,	$0.75	.75	.75	.80	.90	1.00	1.00	1.25	1.40	1.50	1.75	2.00	2.25	2.25	2 75	3.00
Steel Wire,	1.10	1.10	1.20	1.20	1.25	1.40	1.50	1.60	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50

Brass Tube Brushes same list as Steel.

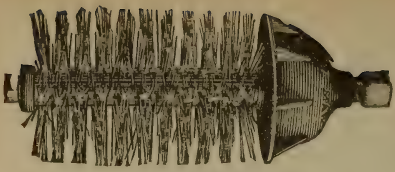


Fig. 1849.

TUBE BRUSHES.

Outside diam. Tube,	1½	2	2¼	2½	2¾	3	3¼
Price, each . .	$2.00	2.00	2.25	2.50	2.75	3.00	3.25
Outside diam. Tube,	3½	3¾	4	4½	5	5½	6
Price, each . .	$3.50	3.75	4.00	4.50	5.00	5.50	6.00

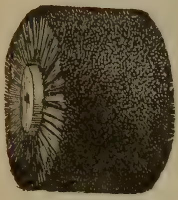


Fig. 1850.

FLUE BRUSHES.

In ordering give exact inside diameter of Flues.

STEEL WIRE, WHALEBONE AND RATTAN.

Steel Wire, per inch diameter	$0.75
Whalebone " "	.65
Rattan "	.30

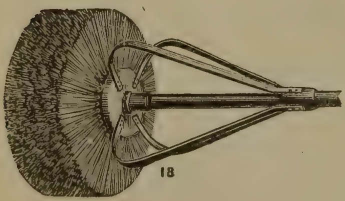


Fig. 1851.

STEEL WIRE FLUE BRUSHES.

In ordering give exact inside diameter of Flues.

Made only 6 in. diameter and upwards.

Price, per inch, diameter $0.75

FAVORITE STEAM FLUE BLOWER.

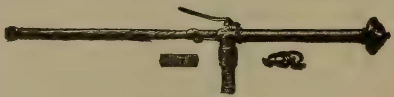


Fig. 1852.

CUT SHOWING BLOWER FOR HORIZONTAL FLUES.

This Blower is also made for Vertical Boilers.

No. of Blower.	Size of Tubes Outside Diameter.	Price with Clamps and Nipple.	Best 4-Ply Steam Hose per Foot.		Best Globe Valves.	
No. 0	1¼ in. to 1¾ in.	$5.00	½ in.	$0.51	½ in.	$1.60
" 1	2 " to 2¼ "	5.00	½ "	.51	½ "	1.60
" 2	2½ " to 2¾ "	6 25	¾ "	.67	¾ "	2.20
" 3	3 " to 3¼ "	7.50	1 "	.83	1 "	2.80
" 4	3½ " to 3¾ "	8.75	1 "	.83	1 "	2.80
" 5	4 " to 4½ "	10.00	1¼ "	1.04	1¼ "	4.00
" 6	5 " to 6 "	12.50	1¼ "	1.04	1¼ "	4.00

FLUE OR TUBE SCRAPERS.

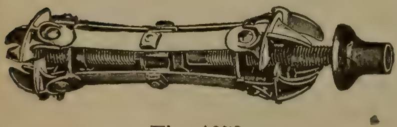


Fig. 1853

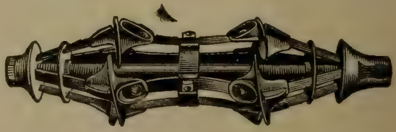


Fig. 1854.

Size, inch,	1½	1¾	2	2¼	2½	2¾	3	3¼	3½	3¾	4	4½	5	6
Price, each,	$2.00	2.00	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	5.00	6.25	7.50

Scrapers are made to fit Boiler Tubes having outside diameter of sizes given

THOMPSON'S PATENT "SOOT SUCKER" BOILER TUBE CLEANER.

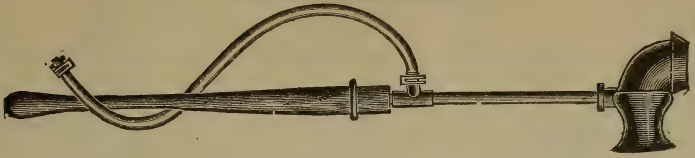


Fig. 1855.

The "Soot Sucker" is an ejector, and the only cleaner perfectly cleaning Boiler Tubes without admitting steam into them, therefore forming no scale.

2-inch Tube	$10.00	4-inch Tube	$12.00
2½-inch Tube	10.50	4½-inch Tube	12.50
3-inch Tube	11.00	5-inch Tube	13.00
3½-inch Tube	11.50	Handle and Fittings	3.50
4-ply Steam Hose, ¾-inch, per foot,	.67	4-ply Steam Hose, 1-inch, per foot,	.83

The Cleaner can be placed on the handle and fittings of any of the various blowers, or on a straight piece of pipe, if desired.

BAILEY'S SAFETY "COPPER CAP" FUSIBLE PLUG.

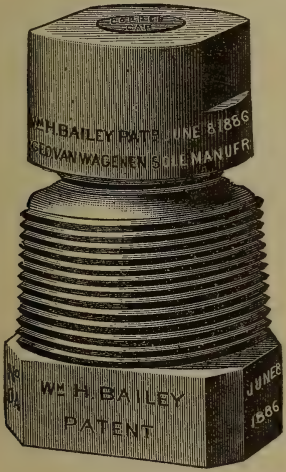
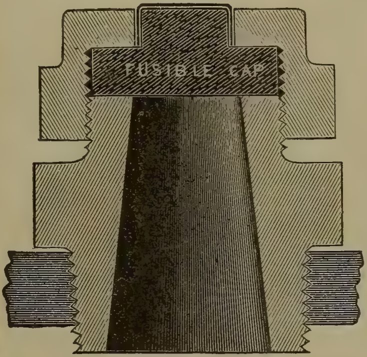


Fig. 1856.



SECTION OF No. 1 PLUG.

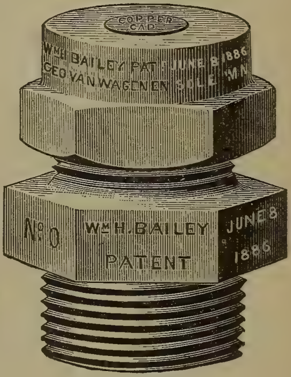


Fig. 1857.

FIXED FROM FIRE SIDE.

No.	Opening.	Pipe Tap.	Price, each.
0A	½ inch	1 inch	$2.00
1A	½ "	1¼ "	2.25
2A	⅝ "	1¼ "	2.50
3A	¾ "	1½ "	2.75

EXTRA FUSIBLE METAL CAPS.

30 cents each. $3.25 per dozen.

FIXED FROM WATER SIDE.

No.	Opening.	Pipe Tap.	Price, each.
00	5/16 inch	⅜ inch	$1.25
0	½ "	¾ "	1.75
1	½ "	1 "	2.25
2	⅝ "	1¼ "	2.50
3	¾ "	1½ "	2.75

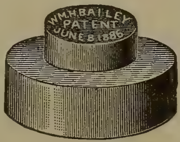


Fig. 1859.

EXACT SIZE
OF
PATENT FUSIBLE CAP
FOR
No. 1 AND No. 1A
BAILEY PATENT PLUG

LOCOMOTIVE TORCH.

MALLEABLE IRON.

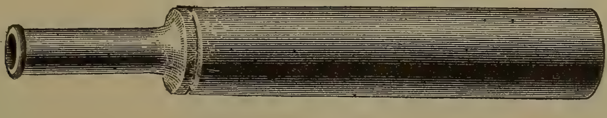


Fig. 1858.

Per dozen, ... $5.00

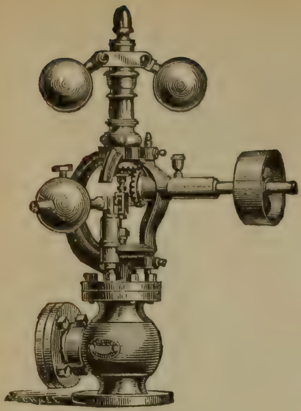


Fig. 1860, Class A.
STANDARD.

GARDNER GOVERNORS.

Class A, with Automatic Stop arranged so as to close the valve in case of accident to the belt, and is made in all sizes from 1½ to 16 inches inclusive.

Class B is without Automatic Stop and is made in all sizes from ¾ to 12 inches inclusive, and furnished with speeder and Sawyer's lever.

In all orders for Governors, be particular to state if Plain or Finished is wanted; the class, A or B, and Style of Valve Chamber. See page 537.

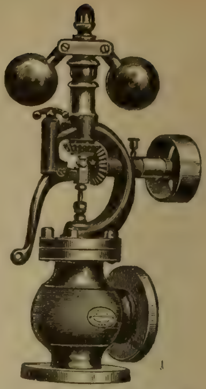


Fig. 1861, Class B.
STANDARD.

PRICE LIST OF CLASS "A" AND "B" STANDARD GOVERNORS.

Size of Governor—Diameter of Opening,	¾	1	1¼	1½	2	2¼	2½	3	3½
Price Class B, Plain	$16.00	18.00	21.00	25.00	30.00	35.00	40.00	50.00	60.00
Price Class B, Finished . . .	$18.00	20.00	24.00	29.00	34.00	40.00	45.00	58.00	69.00
Price Class A, Plain	..	..	..	$29.50	36.00	42.00	48.00	59.00	71.00
Price Class A, Finished . . .	..	..	..	$33.50	40.00	47.00	53.00	67.00	80.00

Size of Governor—Diameter of Opening,	4	4½	5	6	7	8	9	10
Price Class B, Plain	$71.00	83.00	94.00	122.00	150.00	185.00	215.00	240.00
Price Class B, Finished . . .	$81.00	94.00	106.00	136.00	166.00	202.00	235.00	260.00
Price Class A, Plain	$83.00	96.00	109.00	140 00	170.00	210.00	241.00	270.00
Price Class A, Finished . . .	$93.00	107.00	121.00	154.00	186.00	227.00	261.00	290.00

TABLE OF DIMENSIONS OF CLASS "A" AND "B" STANDARD GOVERNORS.

Size of Governor—Diameter of Opening,	¾	1	1¼	1½	2	2¼	2½	3
Diameter of Base Flange	Scr'd	Scr'd	Scr'd	5½	7	7	8	9
Diameter of Side Flange	Scr'd	Scr'd	Scr'd	Scr'd	Scr'd	7	7	8
Largest Radius of Balls	4	4	5	5	6	6	6½	7½
From Centre to Side Flange	2¼	2½	3	3½	5	5	5½	6
From Base to Centre of Inlet . . .	2¼	2½	3	4	5	5½	5¾	6
Extreme Height	15	15	20	21	25	26	28	32
From Centre to End of Shaft	9	9	11	11	13	13	15	15
Diameter of Pulley	2	2	3	3	5	5	5	5½
Width of Belt	1¼	1¼	1½	1½	2	2	2	2
Number of Revolutions	300	300	250	250	200	200	200	170
Diam. Cylinder—300 ft. Piston Speed,	4	5	6	7	9	10	12	14
" " 400 " "	3	4	5	6	8	9	10	12
" " 500 " "	..	3½	4½	5	7	8	9	10
" " 600 " "	..	..	4	4½	6	7	8	9

Size of Governor—Diameter of Opening,	3½	4	4½	5	6	7	8	9	10
Diameter of Base Flange	9	10	10	12	14	15	17	18	19
Diameter of Side Flange	9	10	10	11	13	14	15	16	17
Largest Radius of Balls	7½	8½	8½	10	11	12	12	15	15
From Centre to Side Flange . . .	6½	6½	7	7½	8½	9	10	11	14
From Base to Centre of Inlet . .	6½	6½	7	8	8½	9½	10½	11	15
Extreme Height	34	37	38	43	44	51	53	62	67
From Centre to End of Shaft . .	17	17	17	21	21	25	25	28	28
Diameter of Pulley	5½	6	6	7	7	10	11	12	12
Width of Belt	2	2½	2½	3	3	3	3	3	3
Number of Revolutions	170	160	160	150	150	130	130	130	115
Diam. Cylinder—300 ft. Piston Speed	16	18	20	22	26	31	36	40	45
" " 400 " "	14	16	18	20	23	27	31	35	39
" " 500 " "	12	14	16	18	21	24	28	31	35
" " 600 " "	11	13	15	16	19	22	25	28	32

Prices of **PICKERING, WATERS AND JUDSON GOVERNORS,**
same List as **GARDNER.**

GARDNER GOVERNORS.

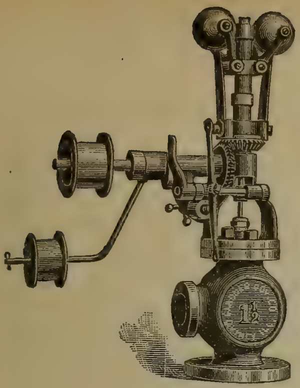


Fig. 1862.
Class A—Spring.
With Speeder, Hand Lever and Automatic Stop.

CLASS A

Shows the Spring Governor with Automatic Stop. This also has speeder and hand lever.

CLASS B

Represents Spring Governor without Automatic Stop, but furnished with speeder and hand lever on all sizes.

When Stop Valves are ordered with Governors, Angle Valves will in all cases be sent unless Globe Valves are specified. In ordering, state style of Valve Chamber. See foot of this page.

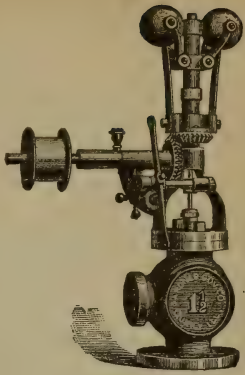


Fig. 1863.
Class B—Spring.
With Speeder and Hand Lever.

Price List of Class "A" and "B" Spring Governors.

Size of Governor— Diam. of Opening.	½	¾	1	1¼	1½	2	2¼	2½	3	3½	4	4½	5
Price, Cl. B—Plain	$14.00	16.00	18.00	21.00	25.00	30.00	35.00	40.00	50.00	60.00	71.00	83.00	94.00
Price, Cl. B—Fin.	$16.00	18.00	20 00	24.00	29.00	34.00	40.00	45.00	58.00	69.00	81.00	94.00	106.00
Price, Cl. A—Plain	. . . .	. . . .	$21.00	24.50	29.50	36.00	42.00	48.00	59.00	71.00	83.00	96.00	109.00
Price, Cl. A—Fin.	. . . .	. . . .	$23.00	27.50	33.50	40.00	47.00	53.00	67.00	80.00	93.00	107.00	121.00

Table of Dimensions of Class "A" and "B" Spring Governors.

Size of Governor,	½	¾	1	1¼	1½	2	2¼	2½	3	3½	4	4½	5
Diam. of Base Flange.	Sc'd	Sc'd	Sc'd	Sc'd	5½	7	7	8	9	9	10	10	12
Diam. of Side Flange,	Sc'd	Sc'd	Sc'd	Sc'd	Sc'd	Sc'd	7	7	8	9	10	10	11
Height—Inches,	12	13	13½	17½	22	23	24	27	29	30	35	36	37
Radius of Balls,	2½	2½	2½	3½	4	4	4	5	5	5	5½	6	6
Length of Shaft,	8	8	8	11	11	13	13	15	15	15	16	16	18
Diameter of Pulley,	1½	1½	1½	2	2½	2½	2½	3½	3½	3½	4½	4½	4½
Width of Belt,	1	1	1	1¼	1½	1½	1½	2	2	2	2½	2½	2½
Centre to Side of Chamber,	1¾	2¼	2½	3	3½	5	5	5½	6	6½	6¾	7	7½
Base to Centre of Chamber,	1¾	2¼	2½	3	4	5	5½	5½	6	6½	6½	7	8
Number of Revolutions,	600	600	600	450	400	400	400	350	350	350	275	275	275

Note.—The following cuts show the various styles of

VALVE CHAMBERS.

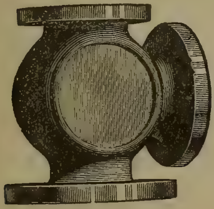


Fig. 1864

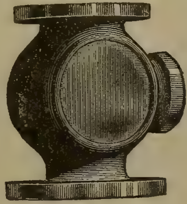


Fig. 1865.

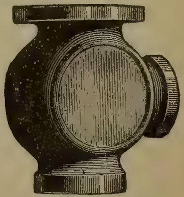


Fig. 1866.

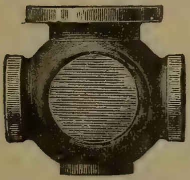


Fig. 1867.

SPRING GOVERNORS.

Spring Governors were designed especially for high-speed stationary and portable engines. They are very quick and sensitive in action. In construction they are fully up to the best modern practice in every particular, and are made in sizes from ½ to 7 inches inclusive.

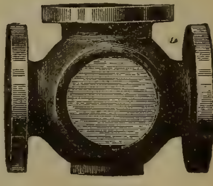


Fig. 1868

GARDNER IMPROVED GLOBE AND ANGLE STOP OR THROTTLE VALVE.

They give full area of openings, have heavy Iron Bodies, are fitted with non-revolving Stems, and Phosphor-Bronze Valves and Seats.

PRICE LIST AND TABLE OF DIMENSIONS.

Size—Inches	1½	2	2¼	2½	3	3½	4
Price, Flanged	$8.00	9.75	11.50	12.50	18.00	22.00	25.00
Extra for Finished Hand Wheel	$1.50	1.75	1.75	2.00	2.50	2.50	3.50
Diameter of Flanges—Inches	5	6	7	7	8	9	10
Size - Inches	**4½**	**5**	**6**	**7**	**8**	**9**	**10**
Price, Flanged	$32.00	38.00	50.00	80.00	103.00	140.00	180.00
Extra for Finished Hand Wheel	$3.50	4.50	4.50	6.00	6.00	8.00	8.00
Diameter of Flanges—Inches,	10	11	13	14	15	16	17

ENGINES MOUNTED ON PORTABLE BOILERS.

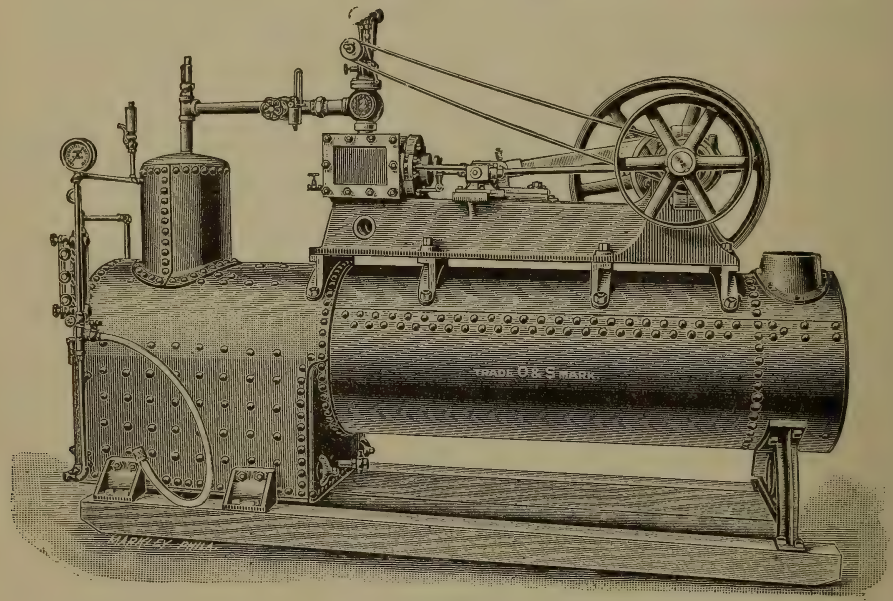


Fig. 1869.

For full particulars of Engine, see page 539.
For full particulars of Boiler, see page 553.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-power as usually rated	10	15	20	25	35
Size of Engine Cylinder, inches	7x10	8x10	9x12	10x12	11x13
Diameter of Boiler, inches	32	32	34	36	40
Length of Furnace, inches	38	44	52	52	52
Height of Furnace, inches	33	33	36	38	42
Width of Furnace, inches	26	26	28	30	34
Number of 3-inch Tubes	26	26	28	34	40
Length of Tubes, inches	72	78	90	96	102
Diameter of Smoke Stack, inches,	16	16	18	18	20
Length of Smoke Stack, feet	18	20	25	25	25
Shipping Weight, Pounds	5900	6800	8000	9200	11,000
Price, Complete	$580.00	665.00	790.00	900.00	1050.00

We will furnish these outfits with Pump and Heater or Injector for feeding boiler as desired.

IMPROVED HORIZONTAL ENGINES.

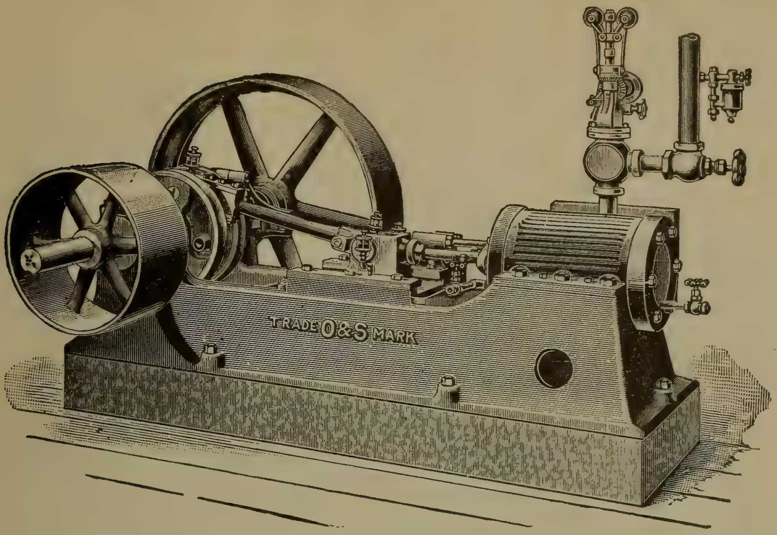


Fig. 1870.

This Engine is especially adapted for duty where two belts are desired. The Band Fly-Wheel being turned with crown face.

Pump and Heater can be attached to the 10, 15, 20 and 25 Horse-Power of this pattern when so desired.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-Power as usually rated, ...	10	15	20	25	35	50	60	75
Size of Cylinder, inches.	7 x 10	8 x 10	9 x 12	10 x 12	11 x 13	12 x 15	13 x 16	14 x 18
Revolutions per minute.	190	190	160	160	160	150	150	150
Size of Steam-Pipe, inches	$1\frac{1}{2}$	2	2	$2\frac{1}{2}$	$2\frac{1}{2}$	3	3	$3\frac{1}{2}$
Size of Exhaust-Pipe, inches	2	$2\frac{1}{2}$	$2\frac{1}{2}$	3	3	$3\frac{1}{2}$	$3\frac{1}{2}$	4
Size of Pulley, inches. .	18 x 8	20 x 10	20 x 10	24 x 12	24 x 12	30 x 14	30 x 14	36 x 16
Size of Fly-Wh'l, inches	36 x 7	40 x 8	44 x 9	44 x 9	48 x 10	52 x 11	60 x 14	72 x 16
Diam. of Shaft, inches .	$2\frac{13}{16}$	$2\frac{15}{16}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$3\frac{3}{4}$	$4\frac{3}{4}$	$4\frac{3}{4}$	$5\frac{3}{4}$
Length of Shaft, inches.	51	51	57	59	64	69	73	84
Length of Journals, inch.	$8\frac{1}{2}$	10	$10\frac{1}{2}$	11	11	12	12	13
Width and Length of Bed-Plate, inches .	21 x 69	24 x 76	26 x 78	28 x 91	28 x 91	30 x 102	30 x 102	34 x 116
Weight of Engine complete, pounds .	1700	2300	2900	3400	4300	5800	7000	9500
Price of Bare Eng. without Pulley or F.-Wh'l	$171.55	$185.55	$251.55	$288.20	$349.20	$421.55	$501.55	$599.00
Price of Pulley, . . .	6.20	7.10	7.10	10.70	10.70	13.00	13.00	21.00
Price of Fly-Wheel, .	22.00	32.00	36.00	36.00	45.00	55.00	75.00	100.00
Price of Oil-Cups (four).	2.00	2.25	2.25	2.25	2.25	2.75	2.75	3.50
Price of Sight-Feed Lubricator, . . .	3.50	3.50	3.50	4.25	4.25	5.50	5.50	5.50
Price of Angle Valve and Nipples, . . .	1.75	2.60	2.60	3.60	3.60	5.20	5.20	6.00
Price of Governor, . .	23.00	27.00	27.00	35.00	35.00	47.00	47.00	65.00
Price of complete Engine with Trimmings	$230.00	$260.00	$330.00	$380.00	$450.00	$550.00	$650.00	$800.00
Price of crating for exp'rt.	6.00	6.50	7.00	8.00	8.00	10.00	10.00	14.00
Price of Pump and Heater	22.00	22.00	26.00	26.00	26.00	. . . .	. . . .	. . . .
Foundation Bolts and Washers, ...	4.50	5.00	5.50	6.00	6.00	8.00	8.00	11.00

HORIZONTAL ENGINE.

For isolated electric light plants, saw-mills or mill work of any description.

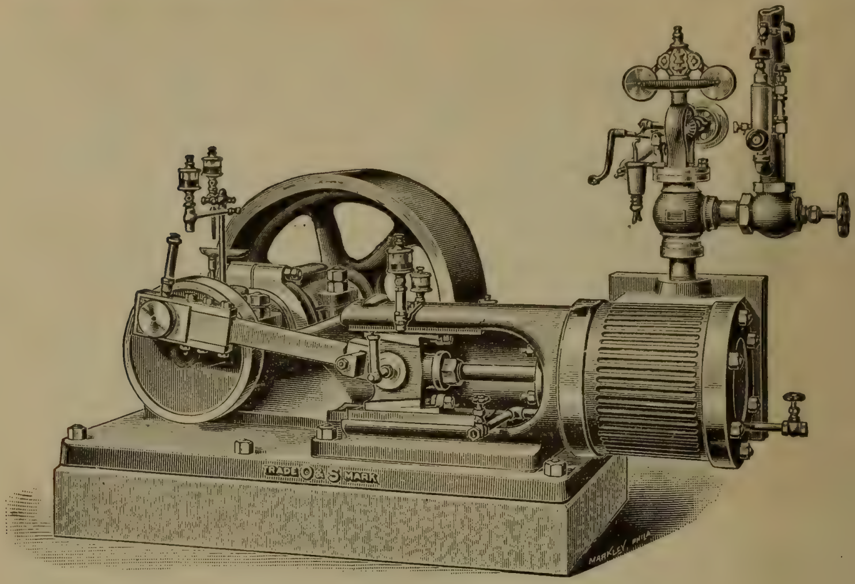


Fig. 1871.

This design is so strong that it can be adapted to very high speed, heavy duty and continuous operation. Equipped with extra heavy balance wheel, automatic stop governor and automatic oiling devices, it will run as steadily and as smoothly as any automatic engine, yet owing to its simplicity does not require the attention of an experienced engineer.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-power (Based on tabulated speed and 50 pounds mean effective pressure)	10	25	50	75
Size of Cylinder, inches	6 x 6	8 x 8	10 x 10	12 x 12
Diameter of Steam-Pipe, inches . .	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3
Diameter of Exhaust-Pipe, inches . .	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Revolutions per minute, ...	350	300	265	235
Diam and Face of Fly-Wheel, inches .	24 x 8	32 x 11	40 x 13	48 x 16
Weight of Fly Wheel, pounds . .	350	800	1300	1900
Diameter of Crank-Shaft, inches . .	$2\frac{15}{16}$	$3\frac{1}{2}$	$4\frac{1}{2}$	$4\frac{3}{4}$
Diameter of Crank-Pin, inches . .	2	$2\frac{13}{16}$	$3\frac{1}{8}$	$3\frac{1}{2}$
Diameter of Piston-Rod, inches . .	$1\frac{3}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	2
Floor Space occupied by Base, inches .	30 x 40	36 x 50	40 x 62	44 x 74
Weight of complete Engine, lbs. .	1800	3000	4400	6700
Price of Bare Engine without Fly-Wheel	$158 00	$240.00	$362.00	$497.00
Price of Fly-Wheel	22.00	50.00	80.00	120 00
Price of Wiping Oil-Cups . . .	11.00	11.00	11.00	11.00
Price of Sight-Feed Lubricator . .	4.00	4 00	4.50	5.50
Price of Angle Valves and Nipples . .	1.75	2.60	3.60	5.20
Price of Automatic Stop Governor . .	28.25	37.40	48 90	61.30
Price of Engine and Trimmings . .	$225.00	$345.00	$510.00	$700.00
Price of Crating for Export . . .	4.50	5.50	7.00	10.00
Price of Foundation Bolts and Washers	5.00	6.00	8.00	11.00

SELF-CONTAINED DISC-CRANK HORIZONTAL ENGINES.

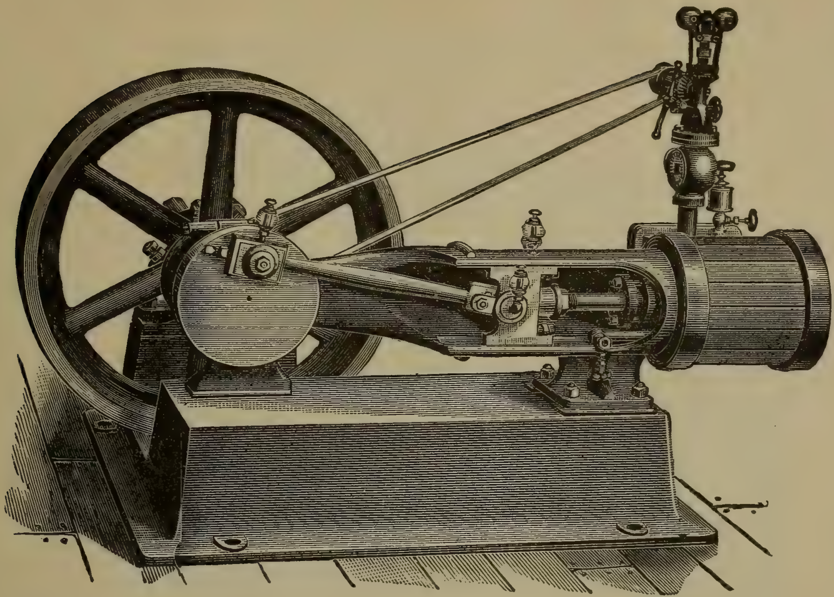


Fig. 1872.

This Engine is suitable for all kinds of work where high speed and smooth running are required. The Engine being all complete on a single cast-iron base, prevents any of its working parts from becoming deranged or out of line. The material is of the best that can be obtained, and the workmanship excelled by none.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-Power as usually rated .	5	7	10	14	20
Size of Cylinder, inches . .	5x5	6x6	7x7	8x8	9x9
Revolutions per minute . .	250	200	190	180	160
Size of Steam-Pipe, inches .	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2
Diameter of Shaft, inches . .	$1\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{5}{8}$	$2\frac{13}{16}$	$2\frac{15}{16}$
Diameter of Fly-Wheel, inches .	20	24	32	36	42
Face of Fly-Wheel, inches .	5	6	7	8	9
Floor Space required, inches .	29x34	31x38	41x46	46x52	48x57
Weight of Engine, pounds .	600	900	1300	1800	2400
Price of Bare Engine . .	$114.30	143.50	183.50	248.50	311.50
Price of Oil Cups (four) . .	1.70	2.00	2.00	2.25	2.25
Price of Sight-Feed Lubricator	3.00	3.50	3.50	4.25	4.25
Price of Governor . . .	17.00	19.00	21.00	23.00	27.00
Price of Engine with Trimmings	136.00	168.00	210.00	278.00	345.00
Price of Crating for export .	3.50	4.00	4.50	5.00	5.50
Price of Foundation Bolts and Washers	3.25	3.75	4.50	5.00	5.50

DISC-CRANK VERTICAL ENGINES.

This style of Engine is the most desirable form for general purposes where small powers are required. They are very strong, heavy in construction, but well proportioned, and will stand hard work and high speed.

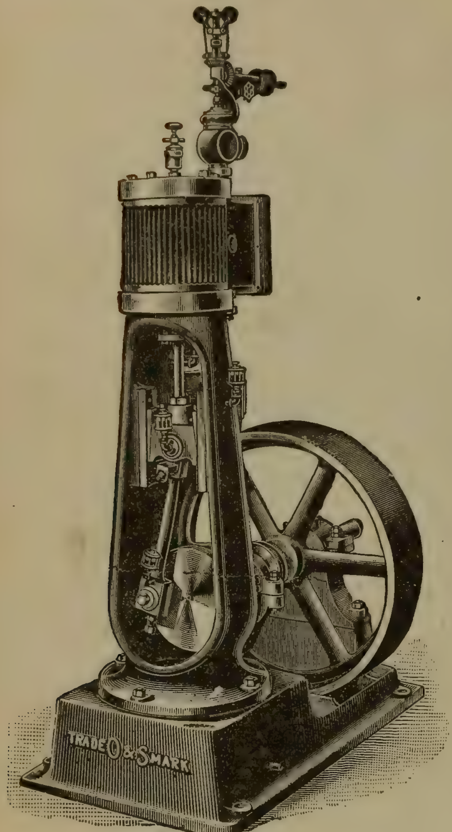


Fig. 1873.

A critical steam test of every engine is made before it leaves the factory, and the necessary adjustments carefully made, so that the Engine is ready to run the moment it is placed in position and given steam.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-power as usually rated	$1\frac{1}{2}$	3
Size of Cylinder, inches	3 x 3	4 x 4
Revolutions per minute	300	250
Size of Steam-Pipe, inches	$\frac{1}{2}$	$\frac{3}{4}$
Diameter of Exhaust-Pipe, inches	$\frac{3}{4}$	1
Diameter of Shaft, inches	$1\frac{3}{16}$	$1\frac{7}{16}$
Diameter of Fly-Wheel, inches	12	16
Face of Fly-Wheel, inches	3	4
Ht. from Floor to Centre of Shaft, ins.	9	10
Height to Top of Cylinder	2 FT. 6 IN.	3 FT.
Floor Space occupied, inches	13 x 23	15 x 28
Weight of Engine, pounds	225	350
Price of Bare Engine	$52.50	$87.30
Price of Oil-Cups (four)	1.40	1.70
Price of Sight-Feed Lubricator	2.60	3.00
Price of Governor	16.00	17.00
Price of Engine, complete	$72.50	109.00
Price of Crating for Export	2.50	3.00
Price of Foundation Bolts & Washers	2.00	2.50

Horse-Power as usually rated	5	7	10	14	20	25	35	60
Size of Cylinder, inches	5 x 5	6 x 6	7 x 7	8 x 8	9 x 9	10 x 10	12 x 12	14 x 16
Revolutions per minute	250	200	190	180	160	160	160	140
Size of Steam-Pipe, inches	$\frac{3}{4}$	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$
Diameter of Exhaust-Pipe, inches	1	$1\frac{1}{4}$	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3	$3\frac{1}{2}$	4
Diameter of Shaft, inches	$1\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{5}{8}$	$2\frac{13}{16}$	$2\frac{15}{16}$	$3\frac{1}{4}$	$3\frac{3}{4}$	$5\frac{3}{4}$
Diameter of Fly-Wheel, inches	20	24	32	36	42	44	48	54
Face of Fly-Wheel, inches	5	6	7	8	9	10	12	16
Ht. from Floor to Centre of Shaft, ins.	12	14	18	20	24	26	28	33
Height to Top of Cylinder	3 FT. 7 IN.	4 FT. 5 IN.	5 FT. 1 IN.	5 FT. 8 IN.	6 FT. 6 IN.	7 FT.	7 FT. 8 IN.	9 FT. 5 IN.
Floor Space occupied, inches,	18 x 36	22 x 40	25 x 46	28 x 50	30 x 56	36 x 62	40 x 70	41 x 85
Weight of Engine, pounds,	600	900	1300	1800	2400	3200	4400	7000
Price of Bare Engine	$114.30	143.50	183.50	248.50	311.50	399.50	525.00	767.00
Price of Oil-Cups (four)	1.70	2.00	2.00	2.25	2.25	2.25	2.50	2.50
Price of Sight-Feed Lubricator,	3.00	3.50	3.50	4.25	4.25	4.25	5.50	5.50
Price of Governor	$17.00	19.00	21.00	23.00	27.00	35.00	47.00	65.00
Price of Engine, complete	$136.00	168.00	210.00	278.00	345.00	441.00	580.00	840.00
Price of Crating for Export	$3.50	4.00	4.50	5.00	5.50	6.00	8.00	12.00
Price of Foundation Bolts & Washers	$3.00	3.50	4.00	4.50	5.00	6.00	8.00	10.00

The above style Engines are made Centre-Crank in size, 5, 7, 10, 14 and 20 horse-power, and take same list as above similar sizes.

CLASS A COMBINED VERTICAL ENGINE AND BOILER.

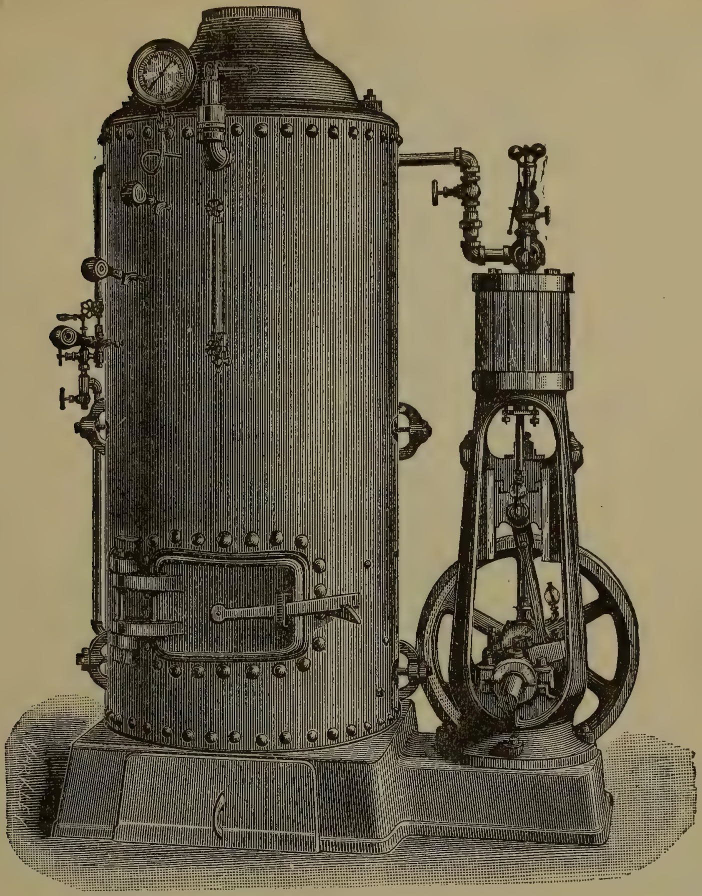


Fig. 1874.

As will be noticed, the Engine and Boiler bases are cast together, and the combined weight of the Boiler and the water therein contained is sufficient to hold Engine rigidly to its place while performing its service up to the given capacity. This renders foundation bolts for the Engine unnecessary.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-Power as usually rated . .	5	7	10	14
Size of Cylinder, inches . . .	5x5	6x6	7x7	8x8
Size of Boiler, inches	24x72	30x72	30x84	36x84
No. 2-inch Tubes	24	42	42	60
Length of Tubes, inches . . .	49	46	58	58
	Ft. In.	Ft. In.	Ft. In.	Ft. In.
Height from floor to top of Boiler .	6 8	6 10	7 10	7 11
Floor space required, inches . .	28x44	33x50	33x60	38x72
Shipping weight, pounds . . .	1950	2700	3350	4300
Price complete as shown . . .	$270.00	330.00	390.00	500.00
Price of Crating for export . . .	4.50	5.00	6.00	8 00

Price includes Inspirator, Engine and Boiler Trimmings, and pipe connections complete ready for use as shown.

CLASS B COMBINED VERTICAL ENGINE AND BOILER.

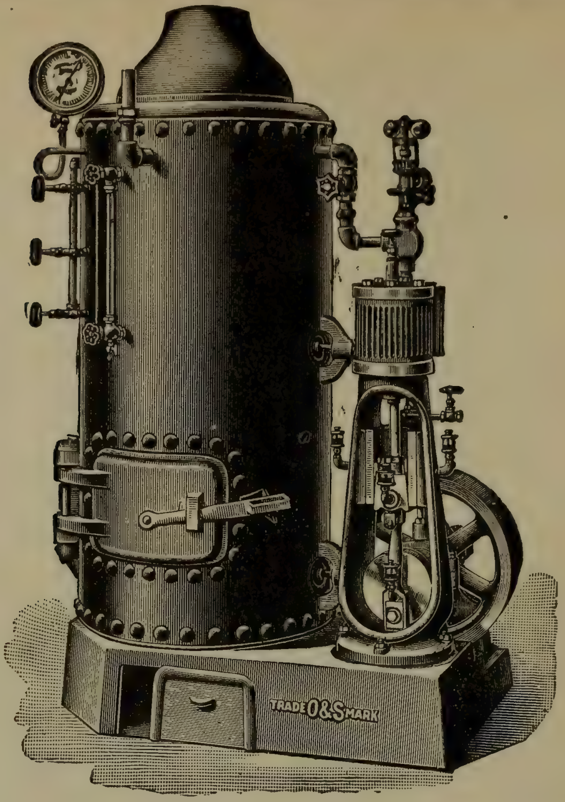


Fig. 1875.

We would call attention to the fact that, with all our combined outfits, we furnish a Boiler with a larger capacity than the Engine. By this means constant attention to the Boiler, when working the Engine to its full capacity, is not so necessary.

TABLE OF DIMENSIONS AND PRICE LIST.

Horse-Power as usually rated . .	$1\frac{1}{2}$	3	5	7	10
Size of Cylinder, inches . . .	3x3	4x4	5x5	6x6	7x7
Size of Boiler, inches	20x36	24x48	27x60	30x72	36x72
Number of 2-inch Tubes . . .	16	24	30	42	60
	Ft. In.	Ft. In.	Ft. In.	Ft. In.	Ft. In.
Height from Floor to Top of Boiler	4 2	4 8	6 9	6 10	6 10
Floor Space required, inches . .	22x33	27x40	31x43	36x55	42x66
Shipping Weight, pounds . . .	650	1,600	2,100	2,900	3,600
Price complete as shown . . .	$135.00	$215.00	$276.00	$336.00	$450.00
Price of Crating for Export . .	$3.50	$4.00	$4.50	$5.00	$6.00

PRICE INCLUDES INSPIRATOR, ENGINE AND BOILER TRIMMINGS AND PIPE CONNECTIONS COMPLETE READY FOR USE AS SHOWN.

We have patterns to combine any of the above Engines with larger Boilers if desired.

SINGLE CYLINDER, FRICTION DRUM, HORIZONTAL HOISTING ENGINES.

WITH BOILER AND FIXTURES COMPLETE ON BED-PLATE.

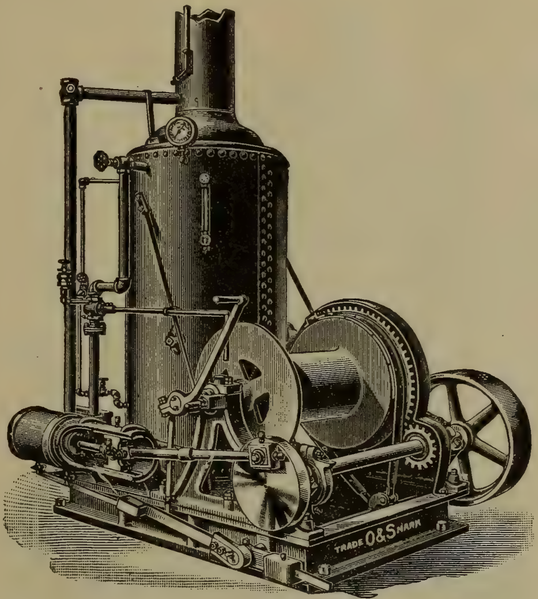


Fig. 1876.

The Gear and Pinion on these Engines are cut from the solid metal.

Specially adapted for pile-driving, railroads, contractors, coal yards, docks, ships, quarries and general hoisting purposes.

TABLE OF DIMENSIONS AND PRICE LIST.

Size number of Engine	1½	2	3½
Horse-power as usually rated . . .	5	8	12
Size of Cylinder, inches	5x7	6¼x8	7x10
Diameter of Drum, inches	10	11	14
Diameter of Flanges, inches . . .	22	23	28
Length of Drum, inches	16	21	26
Diameter of Gear-Wheel, inches . .	25	26½	32½
Diameter of Pinion, inches	6	6½	8
Diameter and face of Band-Wheel, inches .	20x5	24x6	28x7
Size of Boiler, inches	27x60	30x72	36x72
Number 2-inch Tubes	30	42	60
Floor Space required, inches . . .	35x58	40x66	48x76
Weight of suitable Pile-Driving Hammer .	800	1200	2000
Approximate weight, pounds . . .	3300	4000	5500
Price complete as shown	$500.00	630.00	800.00
Price of Crating for export . . .	11.00	15.00	21.00

DOUBLE CYLINDER, FRICTION DRUM HOISTING ENGINE.

WITH BOILER AND FIXTURES COMPLETE ON ONE BED-PLATE.

The Gear and Pinion on these Engines are cut from the solid metal.

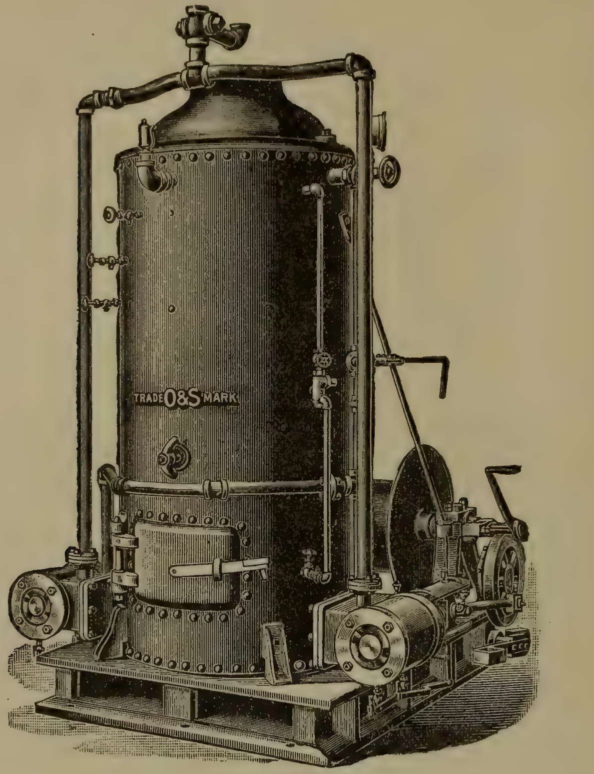


Fig. 1877.

TABLE OF DIMENSIONS AND PRICE LIST.

Size Number of Engine	7½	8	9
Horse Power, as usually rated	10	15	25
Size of Cylinder, inches	5x7	6¼x8	7x10
Diameter of Drums, inches	12	14	14
Diameter of Flanges, inches	22	26	30
Length of Drum between Flanges, inches	20	24	32
Diameter of Gear-Wheel, inches	25	26½	32½
Diameter of Pinion, inches	6	6½	8
Size of Boiler, inches	30x72	36x84	42x84
Number 2-inch Tubes	55	60	84
Floor Space required, inches	42x60	48x70	60x81
Suitable Weight for Pile-Driving Hammer	1500	2000	4000
Approximate Shipping Weight, lbs	4000	5300	8500
Price complete as shown	$710.00	$880.00	$1120.00
Price of Crating for export	15.00	22.00	29.00

DOUBLE CYLINDER, DOUBLE FRICTION DRUM

HOISTING ENGINES.

WITH BOILER AND FIXTURES COMPLETE ON ONE BED-PLATE.

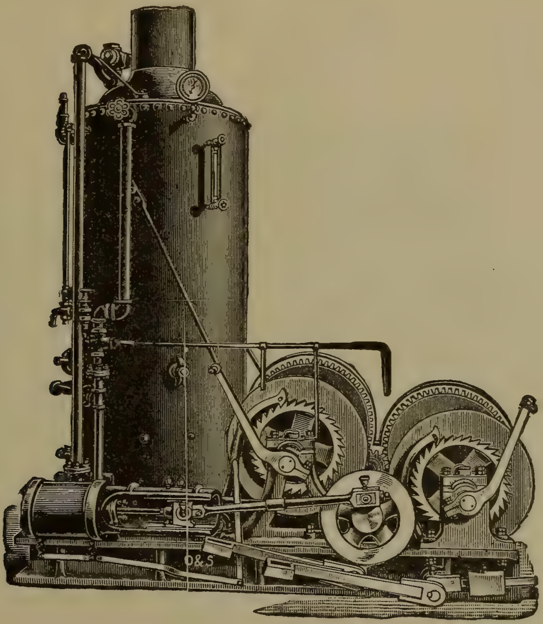


Fig. 1878.

The Gear and Pinion on these Engines are cut from the solid metal.

Especially adapted for Quarry and Bridge work, Building, Mason work, etc.

TABLE OF DIMENSIONS AND PRICE LIST.

Size Number of Engine	70	70¼	71
Horse Power, as usually rated . . .	10	15	25
Size of Cylinder, inches	5x7	6¼x8	7x10
Diameter of Drums, inches	12	14	14
Diameter of Flanges, inches	22	26	27
Length of Drums between Flanges, inches .	20	24	32
Size of Boiler, inches	30x72	36x84	42x84
Number 2-inch Tubes	55	60	84
Floor Space required, inches	42x78	48x88	60x104
Weight Hoisted, Single Rope, usual Speed, lbs.	2000	2500	4000
Approximate Shipping Weight, lbs . . .	5500	7000	9000
Price complete as shown	$900.00	$1100.00	$1260.00
Price of Crating for Export	16.00	24.00	32.00

DOUBLE CYLINDER, FRICTION DRUM, HOISTING ENGINES.

WITH LARGE DRUMS AND SECTIONAL FRAMES.

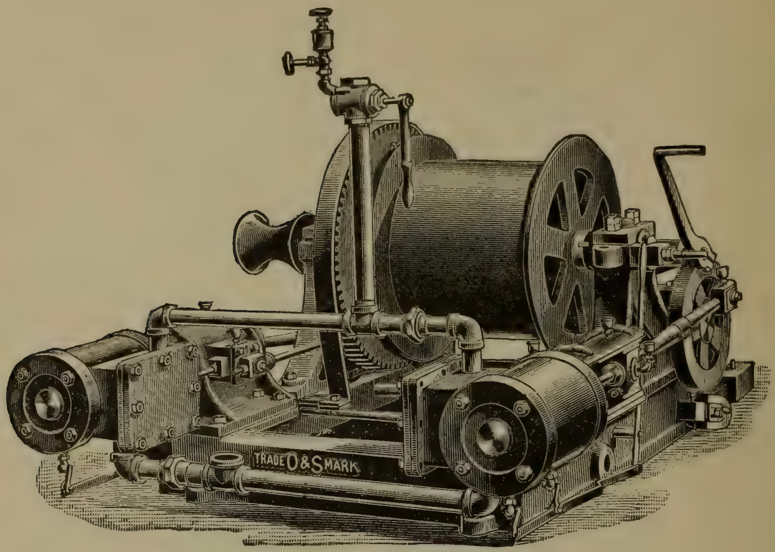


Fig. 1879.

The Gear and Pinion on these Engines are cut from the solid metal.

These Engines will be found especially adapted for moving over the mountains or placing within the mines. The Frames are made in sections, but securely bolted together, and all parts are well secured by dowel pins. By this means they can be taken apart and packed in a very small space for prospecting purposes, or can readily be lowered down a shaft for service on the levels.

TABLE OF DIMENSIONS AND PRICE LIST.

Size number of Engine	133½	134	135
Horse-power as usually rated . . .	10	15	25
Size of Cylinders, inches	5x7	6¼x8	7x10
Diameter of Drum, inches	16	20	24
Diameter of Flanges, inches . . .	22	29	36
Length of Drum, inches	14	16	20
Floor Space required, inches . . .	35x48	42x53	51x64
Weight Hoisted, Single Rope, usual Speed, pounds	2000	2500	4000
Weight of Heaviest Part, pounds . .	279	457	660
Approximate Shipping weight, pounds. .	2000	2300	3000
Price complete as shown	$475.00	550.00	650 00
Price of Crating for export . . .	10.00	14.00	18.00

SPECIAL EXTRA HEAVY LINK-MOTION MINING HOISTING ENGINES.

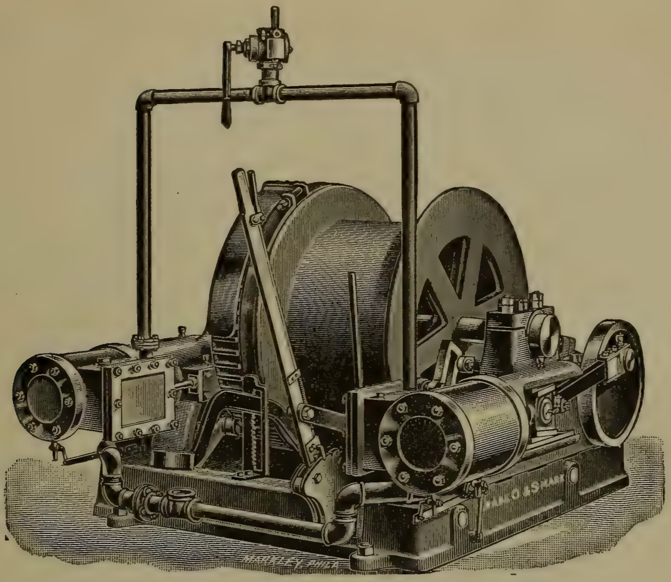


Fig. 1880.

These Engines are designed to stand the severe duty of deep mining. The Gear and Pinion are both half shrouded, the Pinion being made of steel. The shafts are of extra large diameter and the drums of ample size for the capacity of the cylinders.

TABLE OF DIMENSIONS AND PRICE LIST.

Size number of Engine	148	149	150
Horse-power as usually rated . . .	15	25	40
Size of Cylinder, inches	$6\frac{1}{4}$x8	7x10	$7\frac{3}{4}$x10
Diameter of Drum, inches . . .	28	30	32
Diameter of Flanges, inches . . .	37	41	43
Length of Drum between Flanges, inches	20	21	22
Diameter of Crank-Shaft, inches . .	$2\frac{5}{8}$	$2\frac{15}{16}$	$3\frac{1}{4}$
Diameter of Drum-Shaft, inches . .	$3\frac{1}{4}$	$3\frac{3}{4}$	$4\frac{3}{4}$
Weight Hoisted, Single Rope, usual Speed, pounds	2500	4000	6000
Approximate Shipping weight, pounds. .	5000	6000	7500
Floor Space occupied, inches . . .	58x70	60x74	62x77
Price complete as shown	$660.00	740.00	850 00
Price of Crating for export . . .	14.00	18.00	24.00

The Engines can be equipped with "Throwing out Clutch" when so desired, at an extra cost of $42.00 for any size.

IMPROVED DOUBLE CYLINDER PATENT FRICTION SINGLE DRUM HOISTING ENGINE.

WITH POWERFUL FOOT-BRAKE.

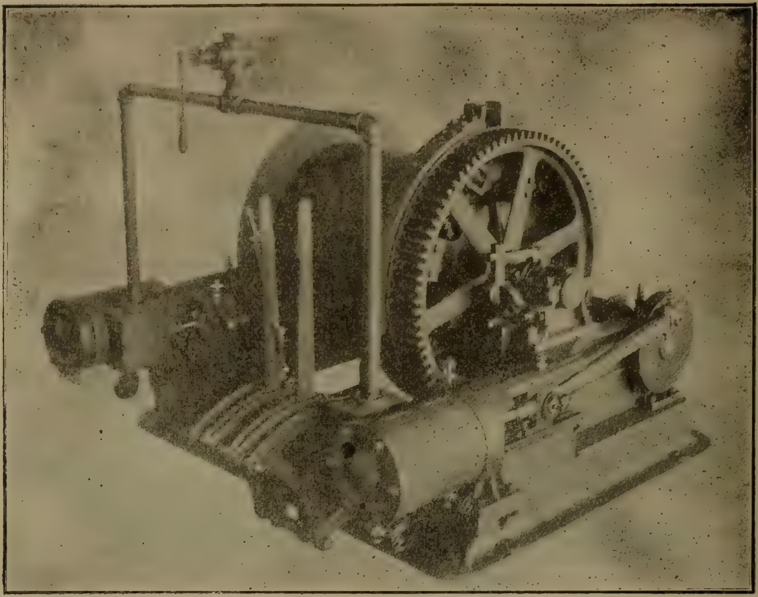


Fig. 1881.

Mounted on solid cast-iron base and fitted with Patent Friction Drum and a powerful Foot-Brake. These Engines have been found by a test of many years to be especially adapted to quarrying and mining operations. They handle heavy loads either on inclined tracks or overhead cables with great speed and are so safe and easily operated that they do not require a skilled engineer. The steam is applied only while hoisting, the lowering being done by the Foot-Brake or the friction. This feature renders the engine economical of steam and adapts them to single compartment shafts, single track inclines and all classes of hoisting where a loose drum is a convenience. The drums are of cast-iron in two sections securely bolted together in the middle. The smaller sizes are turned true, while the larger sizes are spirally grooved for wire rope. The bearings on drum-shaft are long and admit of such thorough lubricating that the drum may revolve on the shaft while lowering with the highest speed and not show appreciable wear.

Size Number Engine, . .	51	52	53	54	55	56	57	58	59	60	61
Horse-Power as usually rated, ...	10	16	20	25	30	40	50	60	70	80	100
Diam. of Cylinder, . . .	5	6¼	7	7¼	8	9	10	10	11	12	14
Stoke Cylinder, ...	6	8	8	9	10	12	12	15	16	18	18
Diam. of Hoisting Drum, .	16	18	20	25	29	32	42	46	48	54	54
Length of Hoisting Drum .	22	25½	25½	27	28	34	36	40	44	48	48
Diam. of Wire Rope for which Drums are grooved, inches . .	9/16	5/8	5/8	11/16	11/16	3/4	7/8	7/8	1	1⅛	1⅛
Number feet wire rope Drums will hold, single coil, ...	164	192	213	257	309	380	452	551	553	603	603
Average Weight Engines Hoist, lbs.	1500	2000	3000	3250	3500	4000	4500	5500	6500	7000	9000
Average Hoisting Speed, feet, per minute . .	225	265	275	300	350	375	400	425	450	450	450
Price, Single Drum, Friction or Link, . . .	$...	$...	$...	$...	$...	$...	$...	$...	$...	$...	$...
Price, Single Drum, with Friction and Link, . .	...	...	...	...	...	...	...	...	...	...	...

DOUBLE CYLINDER, DOUBLE FRICTION DRUM AND REVERSIBLE LINK-MOTION HOISTING ENGINE.

WITH FOOT BRAKES.

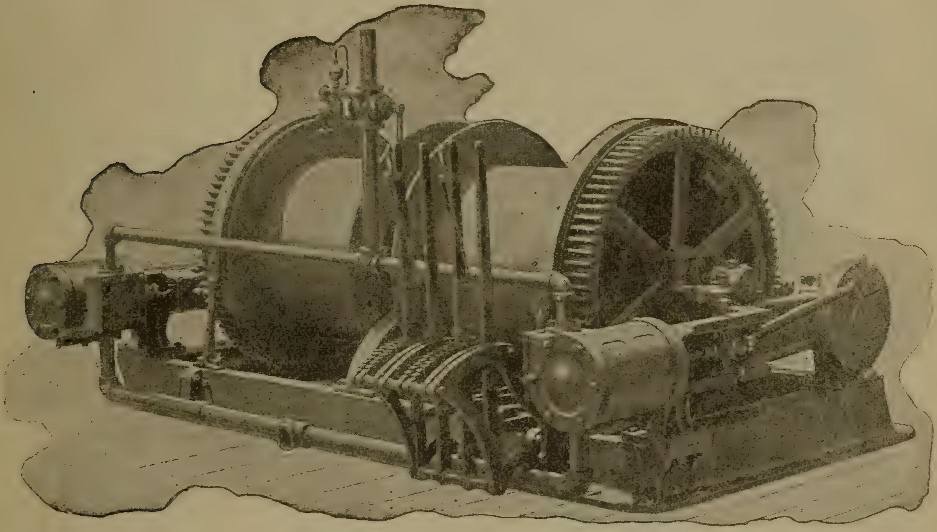


Fig. 1882.

These Engines are especially designed and adapted for Tailrope Haulage and Double Planes. The drums are independent one from the other, loose on the Drum Shaft.

		Cylinder.				Drum.				Bed Plate		Prices	
Size Number of Engines.	Normal H-Power.	Diam. in Inches.	Stroke in Inches.	Weight Hoisted on one Drum at a time, lbs.	Hoisting Speeed per Minute, Ft.	Diam in Inches.	Length in Inches.	Grooved in Drum for Wire Rope. Diameter, Inches.	Amount of Rope the Drum Holds. Single coil, Feet.	Width in Inches.	Length in Inches.	Complete Friction of Link Only.	Complete Friction . and Link.
61	32	8	10	3000	350	27	30	$\frac{7}{8}$	270	140	83	$	$
62	50	10	12	4500	600	42	38	1	450	167	89		
63	75	12	15	7000	600	48	42	1$\frac{1}{4}$	500	199	103		
64	100	14	18	8000	600	60	60	1$\frac{1}{4}$	900	247	125		

"FULL LENGTH TUBE" VERTICAL TUBULAR BOILERS.

TABLE OF DIMENSIONS AND PRICE LIST.

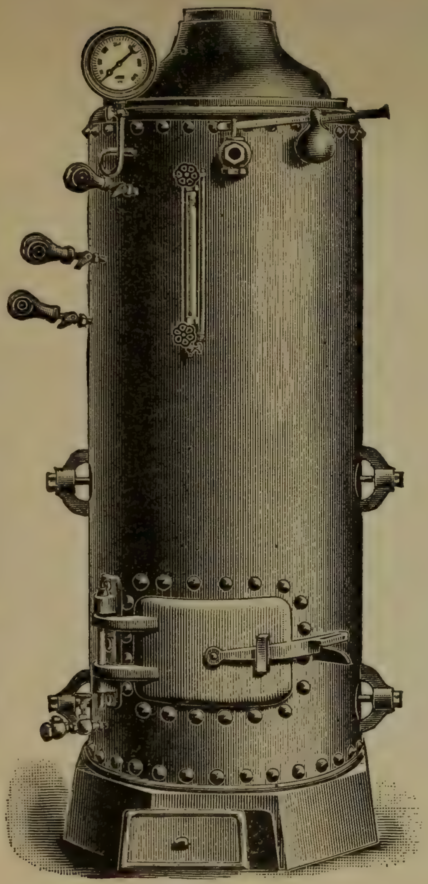


Fig. 1883.

OCTAGON BASE.

Number of Size	1	3½	5	7	9	10	12	13	14	15	16	*16½	†17
Horse-Power as usually rated	4	6	9	12	16	20	27	30	35	40	50	60	75
Diameter of Boiler, inches	24	27	30	36	36	42	32	48	48	48	48	54	54
Height of Boiler, feet	4	5	6	6	8	7	9	8	9	10	10	10	12
Diameter of Furnace, inches	19	21	24	30	30	36	36	42	42	42	42	48	48
Height of Furnace, inches	23	26	26	26	26	30	30	30	30	30	30	30	30
Thickness of Shell, inches	¼	¼	¼	¼	¼	5-16	5-16	5-16	5-16	5-16	5-16	11-32	11-32
Thickness of Heads, inches	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	⅜	½	½
Thickness of Furnace Plate, inches	No. 2	No. 2	No. 2	No. 2	No. 2	5-16	5-16	5-16	5-16	5-16	5-16	⅜	⅜
Number of Tubes (all 2 inches in diameter)	24	30	42	60	60	84	84	120	120	120	150	180	180
Length of Tubes, inches	25	34	46	46	70	54	78	66	72	90	90	90	114
Weight of Boiler without Fixtures, pounds, about	900	1100	1400	1700	2500	2800	3600	4000	4500	5000	5300	6500	7600
Weight of Boiler with Fixtures, pounds	1300	1500	2000	2300	3100	3700	4500	5400	5900	6400	7000	8000	9100
Price of Bare Boiler	$84.75	103.80	126.00	153.00	185.00	212.00	260.00	303.00	331.00	359.00	409.00	515.00	585.00
Price of Base	6.00	7.20	9.50	15.00	15.00	18.50	13.50	24.00	24.00	24.00	24.00	34.00	34.00
Price of Grates	1.75	2.10	3.25	6.25	6.25	9.00	9.00	13.00	13.00	13.00	13.00	20.00	20.00
Price of Hood	2.25	2.80	3.75	5.75	5.75	9.00	9.00	16.00	16.00	16.00	16.00	18.00	18.00
Price of Safety Valve	2.80	2.80	3.15	4.00	4.00	5.75	5.75	8.00	8.00	8.00	8.00	12.00	12.00
Price of Steam Gauge	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Price of Water Gauge	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Gauge Cocks	1.00	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Blow-off Valve	1.00	1.15	1.15	1.75	1.75	2.50	2.50	2.50	2.50	2.50	2.50	3.00	3.00
Price of Check Valve	.45	.55	.60	.65	.65	.65	.65	.75	.75	.75	.75	1.00	1.00
Price of Stop Cock	.50	.60	.60	.60	.60	.60	.60	.75	.75	.75	.75	1.00	1.00
Price of Boiler Complete	105.00	127.00	154.00	193.00	225.00	264.00	312.00	374.00	402.00	430.00	480.00	610.00	680.00
Price of Crating for Export	3.50	3.50	4.00	5.00	5.00	6.00	6.00	7.00	7.00	7.00	7.00	8.00	8.00
Price Extra for Round Base	3.50	3.50	4.00	5.00	5.00	9.00	9.00	12.00	12.00	12.00	12.00	......	......
Diameter of Stack, inches	8	10	10	14	14	16	16	20	20	20	20	24	24

* † Boilers Nos. 16½ and 17 have Wrought-iron Hoods, No. 10 Iron. Bases are Flat iron Plates to set on brick walls.

All sizes are well braced by means of stay bolts, and all boilers 30 inches and upwards in diameter have their vertical seams *double riveted.* From No. 1 to No. 10 inclusive, the shells are made of a single sheet.

Boilers 20 to 30 inches in diameter have two, and the larger sizes three hand holes around the water leg, and the same number above the crown sheet. In boilers 20 inches in diameter the water space around the fire-box is 1½ inches wide, in the 24 inch diameter 2 inches, and in all other sizes 2½ inches wide.

PORTABLE BOILERS, LOCOMOTIVE STYLE.

WATER FRONT AND OPEN BOTTOM.

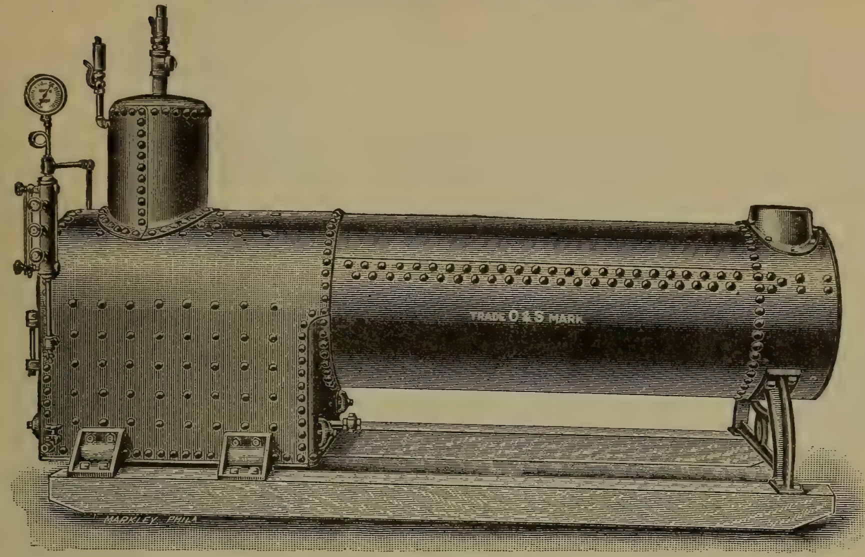


Fig. 1884.

Fixtures and Fittings for above Boilers comprise: Grates, Steam Gauge, Water Gauge, Gauge Cocks, Safety Valve, Blow off Valve, Check and Stop Valve, Smoke Stack and Guy Rods (four times the length of Stack).

Smoke Box is formed by extending shell. It is equipped with Stack Saddle and Smoke Doors.

Anything ordered not in the above list of Fittings will be charged as an extra.

TABLE OF DIMENSIONS AND PRICE LIST.

Number of Size, ...	4	5	6	7	8	9	10	12
Horse-Power as usually rated	12	15	20	25	30	35	40	60
Diameter of Boiler, inches .	32	32	34	36	36	40	42	48
Length of Fire Box, inches .	38	44	52	52	52	52	54	64
Height of Fire Box, inches .	33	33	36	38	40	42	46	52
Width of Fire Box, inches .	26	26	28	30	30	34	36	42
Number of 3-inch Tubes, . .	26	26	28	34	34	40	43	56
Length of Tubes, inches . .	72	78	90	96	120	102	120	144
Thickness of Shell, inches .	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$
Thickness of Furnace Plates, inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{5}{16}$
Thickness of Tube Sheets and Heads, inches . .	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$
Size of Dome, inches . . .	18 x 22	18 x 22	20 x 24	20 x 24	20 x 24	22 x 26	22 x 26	26 x 30
Diameter of Stack, inches .	14	14	16	16	16	20	20	22
Length of Stack, feet . . .	18	20	25	25	25	25	25	35
Weight of Bare Boiler on Skids	3375	3625	4100	4650	4800	5400	6500	9500
Weight of Boiler complete, with Fixtures, ...	4125	4450	5100	5800	6000	6700	8000	11000
Price of Bare Boiler on Skids	$285.00	$334.00	$376.50	$432.00	$471.00	$505.00	$570.00	$745.00
Price of Grates, ...	13.00	17.00	22.00	24.00	24.00	27.00	30.00	36.00
Price of Water Column attached with Cocks, . .	5.00	5.00	5.50	6.50	6.50	6.50	6.50	6.50
Price of Water Gauge, . .	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Steam Gauge, . . .	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Price of Safety Valve, . . .	4.00	4.00	5.50	7.00	7.00	8.00	8.00	10.00
Price of Check and Stop Valve	1.50	1.50	1.50	1.50	2.00	2.50	2.50	3.00
Price of Blow-off Valve, . .	1.25	2.00	2.00	2.00	2.50	3.00	3.00	3.00
Price of Stack, ...	15.75	17.00	22.50	22.50	22.50	23.50	25.50	42.00
Price of Boiler complete, with Fixtures, ...	$330.00	$385.00	$440.00	$500.00	$540.00	$580.00	$650.00	$850.00
Price of Crating for Export, .	6.00	7.00	8.00	8.00	8.00	10.00	12.00	15.00

PORTABLE BOILER (LOCOMOTIVE TYPE).

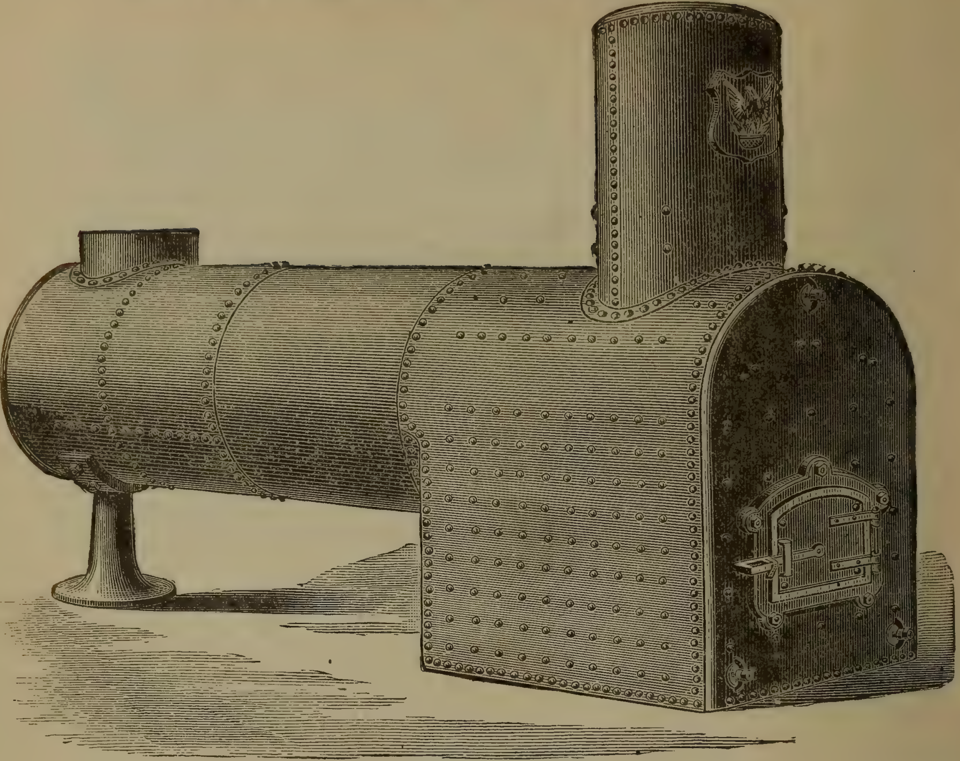


Fig. 1885.

These Boilers are made of the best Steel, with best Flange Steel in the Furnaces. The bottom ring is made of 2 x 3-inch Wrought Iron Bars, giving a three-inch water space on all sides of the fire, and the Boilers are thoroughly braced and stayed. The Furnaces are large size, with ample Grate surface, and the Boilers are first-class in all respects. We put Safety Fusible Plugs in the Crown Sheets. All Boilers are tested thoroughly before shipment. Fixtures for above Boilers comprise Grates, Safety Valve, Gauge Cocks, Steam Gauge, Water Gauge, Water Column, Whistle, Stop Cock, Blow-off Cock, Check Valve, Smoke Stack and Guy Rods.

These Boilers are tested and inspected before shipment, and the purchaser will receive a Policy of Insurance for one year, issued by a responsible Steam Boiler Inspection and Insurance Company. This Policy will be made payable to the Purchaser, and will be in force and valid wherever the Boiler is located.

SPECIFICATIONS OF PORTABLE BOILERS.

No. of Size	1	2	3	4	5	6	7	8	9	10
Horse-Power as usually rated	25	30	35	40	50	60	70	80	90	100
Diameter of Boiler, inches	40	42	44	44	48	54	56	58	58	62
Length of Furnace “	48	50	50	50	54	60	60	60	60	60
Width of Furnace “	34	36	38	38	42	48	50	52	52	56
Height of Furnace “	36	40	42	42	48	54	56	58	58	60
Number of 3-inch Tubes	34	40	44	44	54	60	66	76	76	90
Length of Tubes, inches	96	96	102	120	126	132	144	144	168	168
Diameter of Dome, “	22	22	24	24	26	28	28	30	30	32
Height of Dome, “	26	26	28	28	30	34	34	36	36	40
Diameter of Stack, “	18	20	22	22	24	26	26	28	28	30
Length of Stack, in feet	24	24	30	36	36	36	40	40	50	50
Wt. of Boiler and Smoke Box,	6300	6900	7600	8100	9000	11000	12800	14000	15000	16500
Weight of Boiler Fixtures	1150	1250	1400	1500	1600	1850	2000	2150	2400	2600
Wt. of Boiler & Fixtures, c'mplete	7450	8150	9000	9600	10600	12850	14800	16150	17400	19100

PRICES QUOTED ON APPLICATION.

STANDARD HORIZONTAL BOILER
WITH HALF-ARCH FRONT SETTING.

These Boilers are built of Flange Steel 60,000 pounds T. S.

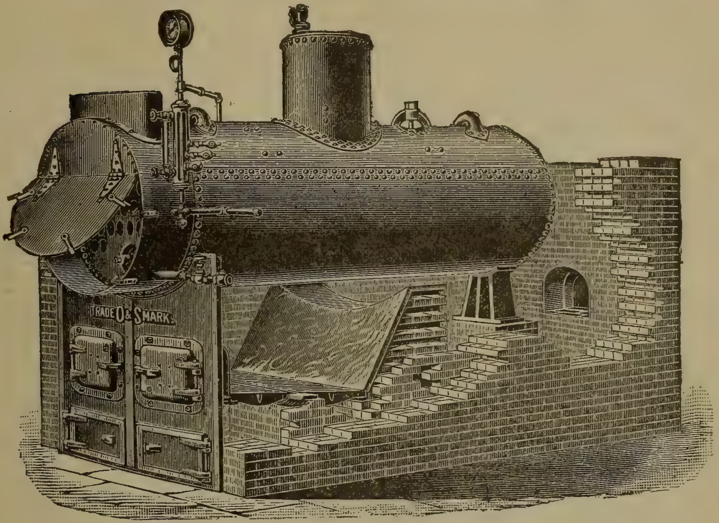


Fig. 1886.

Fixtures for Half-Arch Front Boiler:

These comprise Front complete, with Liners for Fire Brick, Grates, Grate Bearers, Real Arch Bars, Boiler Stand, Anchor Rods, Rear Ash Door and Frame, Safety Valve, Steam Gauge, Water Gauge fitted with Stand Pipe, three Gauge Cocks with Pipes, Whistle and Pipe, Blow-off Valve, Check and Stop Valves, Britchen, Smoke Stack and Guys (four times the length of Stack). For dimensions and prices see page 556.

STANDARD HORIZONTAL BOILER
WITH FULL-ARCH FRONT SETTING.

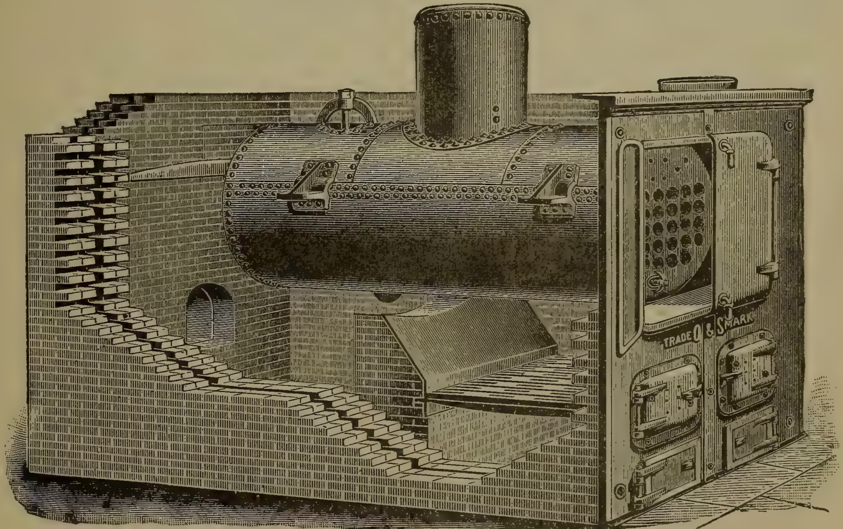


Fig. 1887.—Fixtures for Full-Arch Front Boiler:

These comprise Front complete, with Liners for Fire Brick, Grates, Grate Bearers, Rear Arch Bars, Rear Ash Door and Frame, two Wall Plates with Rollers, Oval Stack Plate, Binder Bars and Cross Rods, Anchor Rods for Front, Safety Valve, Steam Gauge, Water Gauge fitted with Stand Pipe, three Gauge Cocks with Pipes, Whistle and Pipe, Blow-off Valve, Check and Stop Valves, Smoke Stack and Guys (four times the length of Stack). For dimensions and prices see page 557. The 30 and 36-inch Boilers have only Single Stoking and Ash-Pit Doors.

HORIZONTAL TUBULAR BOILERS.

HALF-ARCH FRONT SETTING.

TABLE OF DIMENSIONS AND PRICE LIST.

Number of Size	18	19	20	22	24	25	26	27	28	29	30	31	32	34	36
Horse-Power as usually rated	10	12	15	20	25	30	35	40	45	50	60	70	80	100	125
Diameter of Shell, inches	30	30	36	36	42	44	44	44	48	48	54	54	60	66	72
Length of Tubes, feet	7	8	8	10	10	10	12	14	14	15	15	16	16	16	16
Diameter of Tubes, inches	3	3	3	3	3	3	3	3	3	3	3	3½	4	4	4
Number of Tubes	20	20	22	26	38	44	44	44	48	48	60	44	48	58	78
Diameter of Dome, inches	18	18	20	20	22	22	22	22	26	26	30	30	32	32	32
Height of Dome, inches	20	20	22	22	24	24	24	24	28	28	34	34	36	36	36
Thickness of Shell, inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{3}{8}$
Thickness of Dome-Plate, in.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{3}{8}$
Thickness of Heads, inches	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{2}$
Sq. Feet of Heating Surface	130	160	191	270	380	445	510	560	642	702	846	960	1109	1359	1670
Length of Grates, inches	32	32	35½	41½	41½	47½	47½	53	53	53	53	53	53	53	53
Width of Grates, inches	30	30	36	36	42	44	44	44	48	48	54	54	60	66	72
Diameter of Stack, inches	14	14	16	16	20	20	20	20	22	22	26	26	28	30	32
Length of Stack, feet	28	28	28	35	35	35	40	40	50	50	50	50	60	60	60
Wt. of Boiler and Britchen, lbs. about	1600	1900	2600	3000	4100	4600	5100	5600	6800	7300	8700	7900	11,100	14,000	17,000
Wt. of Boiler & Half Arch Fixtures, pounds, about	3100	3400	4300	5000	6600	7500	8000	8500	10,500	11,000	12,700	13,100	16,100	19,700	22,000
Price of Bare Boilers	$136.60	146.60	173.50	210.50	263.50	310.90	357.40	407.40	476.54	506.54	595.38	645.38	724.84	785.30	895.10
Price of Britchen	7.32	7.32	10.42	10.42	13.84	14.18	14.18	14.18	21.36	21.36	29.52	29.52	37.48	46.20	55.60
Price of Front with Doors and Liners.	18.80	18.80	23.08	23.08	28.92	28.90	28.90	28.90	47.68	47.68	48.80	48.80	57.20	67.10	78.10
Price of Grates	12.72	12.72	15.19	17.69	22.00	37.88	37.88	37.88	42.40	42.40	44.00	44.00	47.00	51.00	55.00
Price of Grate Bearer	1.48	1.48	1.48	1.48	1.85	1.85	1.85	1.85	2.08	2.08	2.30	2.30	2.60	2.94	3.20
Price of Rear Arch Bars	3.60	3.60	3.60	3.60	4.46	4.46	4.46	4.46	4.80	4.80	5.32	5.32	5.72	6.12	6.40
Price of Rear Ash Door and Frame	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
Price of Boiler Stand	1.16	1.16	1.16	1.16	2.76	2.76	2.76	2.76	5.32	5.32	5.66	5.66	5.94	6.12	6.38
Price of Safety Valve	3.15	3.15	4.00	4.00	5.25	5.25	5.25	5.25	8.00	8.00	15.00	15.00	18.00	24.00	30.00
Price of Steam Gauge	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Price of Water Gauge	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Water Column Attached	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Price of Gauge Cocks (3)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Blow-off Cock	1.15	1.15	1.75	1.75	2.30	2.30	2.30	2.30	2.30	2.30	3.50	3.50	6.00	8.00	10.00
Price of Check Valve	.60	.60	.60	.60	.75	.75	.75	.75	1.10	1.10	1.10	1.10	1.40	1.40	1.40
Price of Stop-Cock	.70	.70	.70	.70	.85	.85	.85	.85	1.20	1.20	1.20	1.20	1.60	1.60	1.60
Price of Whistle and Pipe	2.80	2.80	3.60	3.60	3.60	5.00	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00
Price of Smoke Stack	18.00	18.00	19.00	24.00	32.00	32.00	35.00	35.00	50.00	50.00	68.00	68.00	88.00	96.00	108.00
Price of Guy Rods	3.50	3.50	3.50	4.00	4.50	4.50	5.00	5.00	6.00	6.00	6.00	6.00	7.00	7.00	7.00
Price of Boiler Complete	$225.00	235.00	275.00	320.00	400.00	465.00	515.00	565.00	690.00	720.00	850.00	900.00	1025.00	1125.00	1280.00
Price of Crating for Export	$10.00	10.00	14.00	14.00	16.00	18.00	19.00	19.00	25.00	25.00	30.00	30.00	32.00	34.00	36.00

HORIZONTAL TUBULAR BOILERS.

FULL-ARCH FRONT SETTING.

TABLE OF DIMENSIONS AND PRICE LIST.

Number of Size	18	19	20	22	24	25	26	27	28	29	30	31	32	34	36
Horse-Power as usually rated	10	12	15	20	25	30	35	40	45	50	60	70	80	100	125
Diameter of Shell, inches	30	30	36	36	42	44	44	44	48	48	54	54	60	66	72
Length of Tubes, feet,	7	8	8	10	10	10	12	14	14	15	15	16	16	16	16
Diameter of Tubes, inches	3	3	3	3	3	3	3	3	3	3	3	3½	4	4	4
Number of Tubes	20	20	22	26	38	44	44	44	48	48	60	44	48	58	78
Diameter of Dome, inches	18	18	20	20	22	22	22	22	26	26	30	30	32	32	32
Height of Dome, inches,	20	20	22	22	24	24	24	24	28	28	34	34	36	36	36
Thickness of Shell, inches	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{3}{8}$
Thickness of Dome-Plate, in.	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{1}{4}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{9}{32}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{5}{16}$	$\frac{11}{32}$	$\frac{3}{8}$	$\frac{3}{8}$
Thickness of Heads, inches	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{1}{2}$
Sq. Feet of Heating Surface	130	160	191	270	380	445	510	560	642	702	846	960	1109	1359	1670
Length of Grates, inches	32	32	35½	41½	41½	47½	47½	53	53	53	53	53	53	53	53
Width of Grates, inches	30	30	36	36	42	44	44	44	48	48	54	54	60	66	72
Diameter of Stack, inches	14	14	16	16	20	20	20	20	22	22	26	26	28	30	32
Length of Stack, feet	28	28	28	35	35	35	40	40	50	50	50	50	60	60	60
Wt. of Boiler, pounds, about	1600	1900	2600	3000	4100	4600	5100	5600	6800	7300	8700	9300	11,100	14,000	17,000
Wt. of Boiler & Full Arch Fixtures, pounds, about	3800	4100	5300	6000	7900	8800	9300	9800	11,800	12,300	14,000	14,600	17,500	21,000	24,000
Price of Bare Boilers with Wall Brackets	$144.56	154.56	181.35	218.33	288.52	316.24	364.74	407.74	482.78	517.78	618.58	668.58	745.70	823.60	932.16
Price of Front with Doors and Liners.	47.84	47.84	51.60	51.60	55.32	55.32	55.32	55.32	74.40	74.40	90.08	90.08	98.00	110.00	122.00
Price of Grates	12.72	12.72	15.20	17.72	22.00	37.88	37.88	37.88	42.40	42.40	44.00	44.00	47.00	51.00	55.00
Price of Grate Bearer	1.48	1.48	1.48	1.48	1.85	1.85	1.85	1.85	2.08	2.08	2.30	2.30	2.60	2.94	3.20
Price of Rear Arch Bars	3.60	3.60	3.60	3.60	4.46	4.46	4.46	4.46	4.80	4.80	5.32	5.32	5.72	6.12	6.40
Price of Ash Door & Frame	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92	3.92
Price of Oval Stack Plate	4.48	4.48	6.20	6.20	8.68	8.68	8.68	8.68	9.72	9.72	11.20	11.20	12.76	13.12	15.02
Price of Binder Bars & Rods	17.00	17.00	19.00	19.00	21.50	21.50	21.50	21.50	24.00	24.00	26.50	26.50	29.00	33.00	36.00
Price of Safety Valve	3.15	3.15	4.00	4.00	5.25	5.25	5.25	5.25	8.00	8.00	15.00	15.00	18.00	24.00	30.00
Price of Steam Gauge	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Price of Water Gauge	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Water Column Attached	3.50	3.50	3.50	3.50	3.50	3.50	3.50	3.50	6.30	6.30	6.30	6.30	6.30	6.30	6.30
Price of Gauge Cocks (3)	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50	1.50
Price of Blow-off Cock	1.15	1.15	1.75	1.75	2.30	2.30	2.30	2.30	2.30	2.30	3.50	3.50	6.00	8.00	10.00
Price of Check Valve	.60	.60	.60	.60	.75	.75	.75	.75	1.10	1.10	1.10	1.10	1.40	1.40	1.40
Price of Stop-Cock	.70	.70	.70	.70	.85	.85	.85	.85	1.20	1.20	1.20	1.20	1.60	1.60	1.60
Price of Whistle and Pipe	2.80	2.80	3.60	3.60	3.60	5.00	5.00	5.00	5.00	5.00	6.00	6.00	6.00	6.00	6.00
Price of Smoke Stack	18.00	18.00	19.00	24.00	32.00	32.00	35.00	35.00	50.00	50.00	68.00	68.00	88.00	96.00	108.00
Price of Guy Rods	3.50	3.50	3.50	4.00	4.50	4.50	5.00	5.00	6.00	6.00	6.00	6.00	7.00	7.00	7.00
Price of Boiler Complete	$275.00	285.00	325.00	370.00	465.00	510.00	562.00	605.00	730.00	765.00	915.00	965.00	1085.00	1200.00	1350.00
Price of Crating for Export	$13.00	13.00	17.00	17.00	20.00	22.00	23.00	23.00	30.00	30.00	36.00	36.00	40.00	42.00	45.00

SMOKE STACKS FOR TWO OR MORE "STANDARD" BOILERS SET TOGETHER.

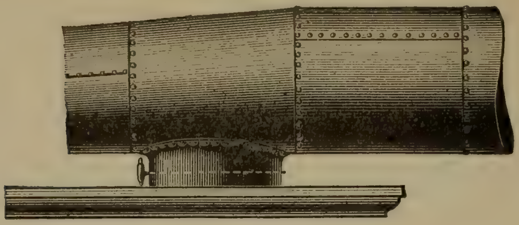


Fig. 1888.

SMOKE CONNECTION "B."

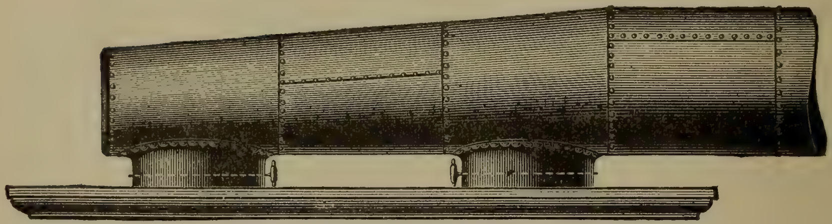


Fig. 1889.

SMOKE CONNECTION "C."

TABLE OF DIMENSIONS OF SMOKE STACKS.

Number of Size,	18	19	20	22	24	25	26	27	28	29	30	31	32	34	36
Diameter of Stack for two Boilers, inches	20	20	24	24	26	30	30	30	34	34	38	38	38	42	46
Diameter of Stack for three Boilers, inches	24	24	28	28	34	34	34	34	38	38	42	42	42	46	48
Diameter of Stack for four Boilers, inches	28	28	34	34	38	38	38	38	42	42	48	48	48	50	54

SMOKE STACKS, GUYS.

For Elbow in Stack, add cost for 8 feet of Stack.

Diameter of Stack, inches	8	10	12	14	16	18	20	22	24	26
No. 16 Iron, per foot	$0.65	$0.70	$0.75	$0.80	$0.85	$0.90	$0.95	$1.00	$1.20	$1.30
“ 14 “ “	.90	.95	1.00	1.10	1.15	1.25	1.35	1.45	1.55	1.70
“ 12 “ “	...	1.15	1.30	1.40	1.45	1.55	1.65	1.75	1.85	1.95
“ 10 “ “	...	...	1.65	1.80	1.90	2.00	2.15	2.30	2.45	2.60
Galvanized Wire Rope for Guys, per foot	.03	.03	.03	.03	.03	.03	.03	.03	.03	.03
Damper in Stack,	2.50	2.75	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00
Umbrella Top for Stack,	3.00	3.25	3.50	4.00	4.00	5.00	5.00	6.00	7.00	8.00
Price of Crating for Export, per foot	.16	.16	.16	.18	.18	.20	.20	.24	.24	.32

Diameter of Stack, inches	28	30	32	34	36	38	40	42	44	48
No. 16 Iron, per foot	$1.40	$1.50	...	...	...	...	...	...	...	...
“ 14 “ “	1.85	2.00	$2.15	$2.25	$2.40	$2.50	...	...	...	...
“ 12 “ “	2.00	2.25	2.40	2.50	2.65	2.75	$2.90	$3.00	...	...
“ 10 “ “	2.80	3.00	3.20	3.40	3.60	3.80	4.05	4.25	$4.50	$4.75
Galvanized Wire Rope for Guys, per foot	.05	.05	.05	.05	.05	.06	.06	.06	.06	.06
Damper in Stack,	4.00	6.00	6.00	6.00	6.00	6.00	7.00	7.00	8.00	8.00
Umbrella Top for Stack,	10.00	11.00	12.00	13.00	14.50	16.00	18.00	20.00	23.00	26.00
Price of Crating for Export, per foot	.32	.34	.34	.36	.36	.48	.48	.48	.48	.48

NEW DRILL CHUCK.

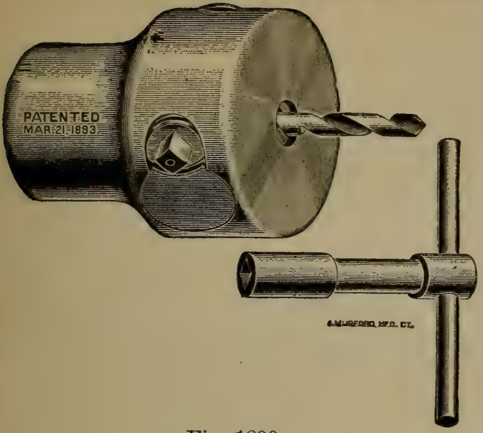


Fig. 1890.

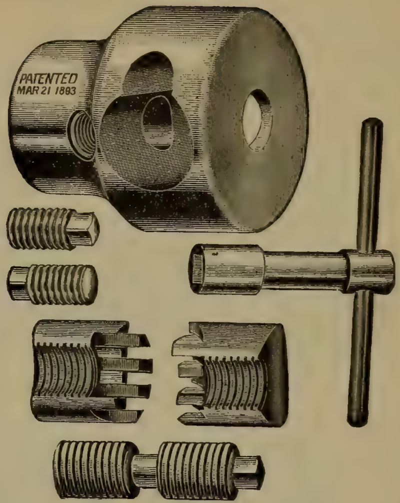


Fig. 1891.

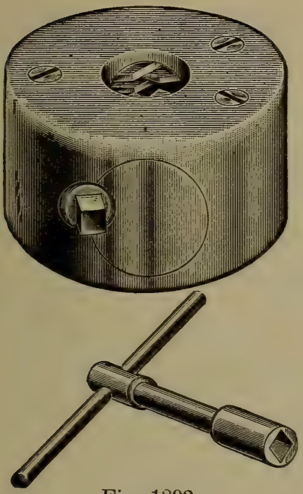


Fig. 1892.

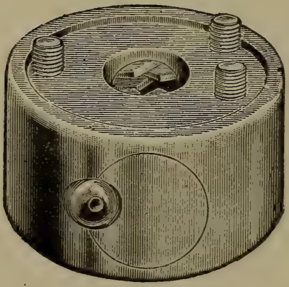


Fig. 1893.

This Chuck is simple in construction, and very strong and durable in all its parts; the body is composed of one piece of metal, and the entire Chuck of but FOUR pieces.

The entire Chuck in the $\frac{1}{4}$ inch and $\frac{1}{2}$ inch sizes is made of steel; in the larger sizes the working parts are of steel and the jaws thoroughly hardened.

Fig. 1890 shows the Chuck assembled and holding drill ready for work. Fig. 1891 shows the body and working parts of Chuck. The $1\frac{1}{2}$ inch and 2 inch sizes are attached to spindle of machine by face-plate and screws. Fig. 1892 is a front view and Fig. 1893 is a back view.

PRICE LIST OF CHUCKS.

Approximate Diam. of Body, inches,	$1\frac{3}{8}$	$2\frac{3}{8}$	$2\frac{15}{16}$	$3\frac{1}{2}$	$5\frac{1}{4}$	$6\frac{1}{4}$
Will Hold Drill, inches	0 to $\frac{1}{4}$	0 to $\frac{1}{2}$	0 to $\frac{3}{4}$	0 to 1	0 to $1\frac{1}{2}$	0 to 2
Price,	$7.00	8.00	9.00	10.00	18.00	20.00

PRICE LIST OF PARTS OF CHUCK.

Size, inch	$\frac{1}{4}$	$\frac{1}{2}$	$\frac{3}{4}$	1	$1\frac{1}{2}$	2
Body	$2.75	$3.00	$3.25	$3.50	$6.50	$7.00
Jaws, per pair	2.75	3.00	3.25	3.50	6.50	7.00
Screws, each	1.00	1.25	1.50	1.75	3.50	4.00
Wrench	.50	.75	1.00	1.25	1.50	2.00

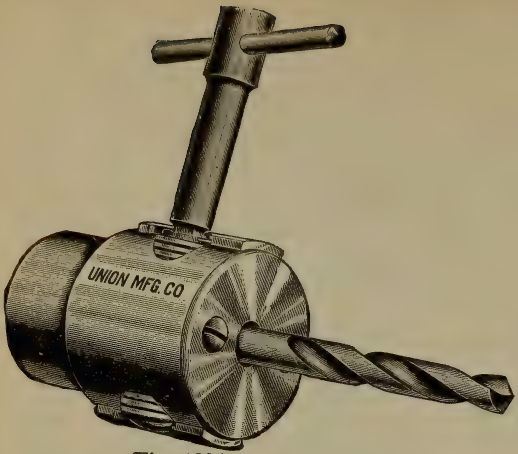


Fig. 1894.

THE UNION DRILL CHUCK.

Number.	Diameter, Inches.	Holding, Inches.	Price.
000	$1\frac{1}{4}$	0 to $\frac{1}{4}$	$7.00
00	$1\frac{5}{8}$	0 to $\frac{3}{8}$	7.50
100	$2\frac{1}{4}$	0 to $\frac{1}{2}$	8.00
101	$2\frac{3}{4}$	0 to $\frac{3}{4}$	9.00
102	$3\frac{1}{2}$	0 to 1	10.00

The Union Drill Chuck, as shown is intended to supply the demand for an all-round Chuck, capable of heavy as well as light work.

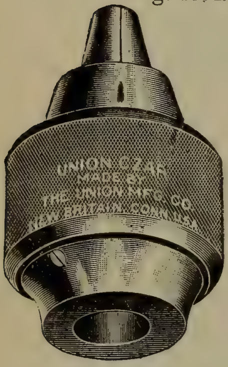


Fig. 1895.

UNION CZAR DRILL CHUCK.

Especially adapted to light and rapid work.

	Holds.	Price.
No. 1, ...	0 to $\frac{3}{16}$	$5.50
" 2, ...	0 to $\frac{5}{16}$	5.50
" 3, ...	0 to $\frac{1}{2}$	9.00

DIRECTIONS.

To take this Chuck apart, drive the body through the outside shell in the direction of the arrow, as shown in the sectional cut.

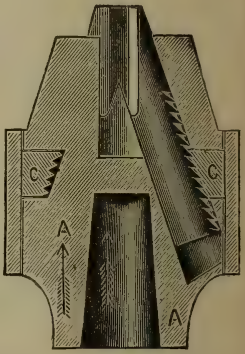


Fig. 1895. Sectional View.

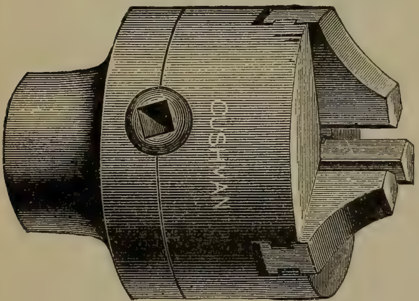


Fig. 1896.

KEY DRILL CHUCK.

This is a regular Geared Scroll Chuck, having a hub adapted for taper arbor, and jaws designed for holding drills and rods.

They are made with jaws same as shown in cut, and unless otherwise specified, such style will be sent. We can, however, furnish them with either No. 1 or No. 2 Step Jaws, or with both sets as may be desired. When Chucks are ordered with "two sets of Jaws," we will send one set each of No. 1 and No. 2 style.

	Diameter, Inches.	Capacity, Inches.	Price with One Set of Jaws.	Price with Two Sets of Jaws.	Extra Sets of Jaws ordered without Chuck
No. 1,	2	0 to $\frac{1}{2}$	$6.50	$8.00	$2.25
No. 2,	$2\frac{1}{2}$	$\frac{1}{64}$ to $\frac{5}{8}$	8.00	9.50	2.25

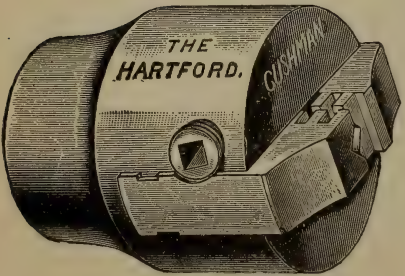


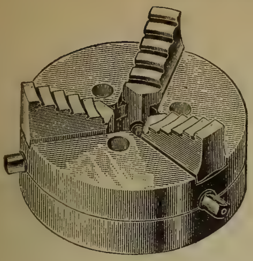
Fig. 1897.

THE HARTFORD DRILL CHUCK.

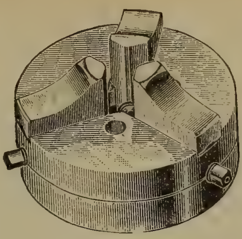
	Diameter, Inches.	Length, Inches.	Weight, Lbs.	Capacity, Inches.
No. 0, . .	$1\frac{3}{4}$	$2\frac{1}{2}$	$1\frac{1}{4}$	0 to $\frac{1}{4}$
No. 1, . .	$2\frac{1}{8}$	$2\frac{3}{4}$	$2\frac{1}{4}$	0 to $\frac{1}{2}$
No. 2, . .	$2\frac{7}{8}$	$3\frac{1}{4}$	$4\frac{1}{2}$	0 to $\frac{3}{4}$

	Price.	Extra Jaws, per Pair.	Extra Screws, Each.
No. 0, . . .	$6.00	$2.00	$0.80
No. 1, . . .	7.00	2.25	1.00
No. 2, . . .	8.00	2.50	1.20

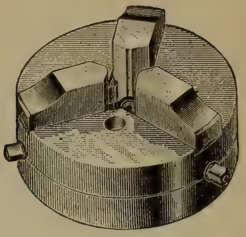
THE HORTON UNIVERSAL LATHE CHUCK.



COMMON JAWS.
Fig. 1898.



No. 1 JAWS.
Fig. 1899.



No. 2 JAWS.
Fig. 1900.

PRICE LIST OF EITHER STYLE OF JAW.

Diameter of Body, Inches.				
. .	3 inch Chuck, Three Jaws, .	$18.00	5 inch Chuck, Four Jaws, .	$30.00
$4\frac{5}{8}$	4 " " " " .	22.00	6 " " " " .	32.00
6	5 " " " " .	25.00	9 " " " " .	42.00
7	6 " " " " .	26.00	12 " " " " .	56.00
$9\frac{1}{4}$	9 " " " " .	34.00	15 " " " " .	64.00
$12\frac{1}{4}$	12 " " " " .	44.00	18 " " " " .	75.00
$14\frac{3}{8}$	15 " " " " .	52.00	21 " " " " .	95.00
$16\frac{3}{4}$	18 " " " " .	62.00	22 " " " " .	110.00
$19\frac{1}{4}$	21 " " " " .	80.00	24 " " " " .	120.00
$20\frac{1}{2}$	22 " " " " .	90.00	26 " " " " .	160.00
23	24 " " " " .	100.00	30 " " " " .	200.00
25	26 " " " " .	130.00	36 " " " " .	285.00
28	30 " " " " .	170.00	42 " " " " .	325.00
$34\frac{1}{2}$	36 " " " " .	230.00		
$41\frac{1}{4}$	42 " " " " .	270.00	Fig. 1898 shows 3 and 4 inch Chuck.	

For other styles of Jaws, see page 562.

CAR WHEEL CHUCKS.

30 inch, . . $185.00	36 inch, . . $250.00	42 inch, . . $300.00

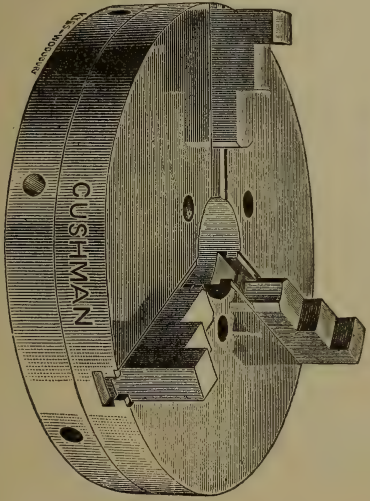


Fig. 1901.

LEVER SCROLL CHUCK.

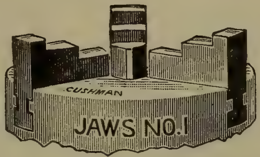


Fig. 1902.

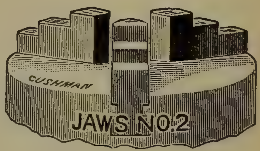


Fig. 1903.

Diameter. Inches.	Diameter of Hole. Inches.	Diameter of Face-Plate. Inches.	Price.
3	$\frac{5}{8}$	$2\frac{7}{8}$	$8.00
4	$\frac{3}{4}$	$3\frac{9}{16}$	10.00
6	$1\frac{9}{16}$	4	15.00
9	$1\frac{3}{4}$	$5\frac{3}{4}$	20.00
12	3	7	26.00
15	3	7	32.00
18	4	$7\frac{13}{16}$	38.00
21	4	$7\frac{13}{16}$	48.00

For Chucks with four Jaws add 10 per cent., and for Chucks with two Set Jaws add 20 per cent.

We can furnish this Chuck, with No. 1 Jaws, in all the sizes mentioned above; with No. 2 Jaws, up to and including 12-inch, and with both sets (No. 1 and No. 2) up to and including 9-inch. Be particular when ordering to state the style of Jaws wanted. Unless otherwise specified, we will send Chucks with No. 1 Jaws. Bolts furnished with each Chuck.

THE HORTON UNIVERSAL LATHE CHUCK.

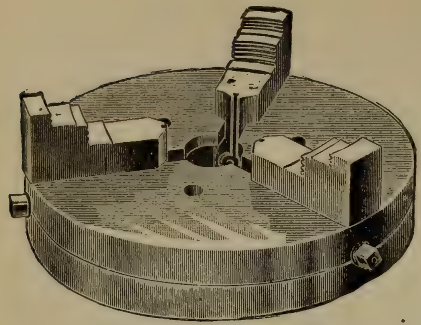


Fig. 1904.

COMMON JAW CHUCK.

This cut represents Common 6, 9 and 12 inch Chucks with the Patent Jaw. It illustrates all sizes between 4-inch and 15-inch.

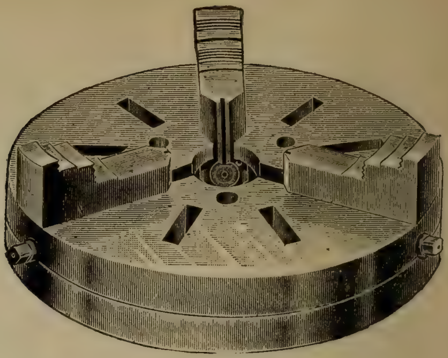


Fig. 1905.

COMMON JAW CHUCK.

This cut gives a view of Three-Jaw Universal Chucks *over* 12 *inches in diameter*. Slots are made entirely through the body of chuck, which makes it very convenient for bolting heavy work to if required.

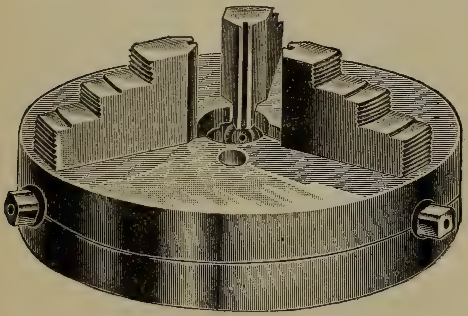


Fig. 1906.

CHUCK WITH OUTSIDE BITES.

This cut gives a view of the 6 and 9-inch Chucks with outside bites (not reversible.)

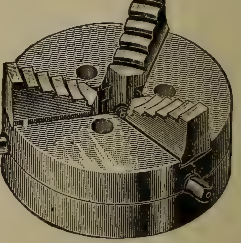


Fig. 1907.

COMMON JAW CHUCK, 4-INCH.

This cut shows 4-inch Common Chuck. It requires a swing of 5½ inches, and will hold work from ⅛ inch to 4 inches diameter.

Three-Jaw, Either Style.

3-inch	Chuck	$18.00
4	"	22.00
5	"	25.00
6	"	26.00
9	"	34.00
12	"	44.00
15	"	52.00
18	"	62.00
21	"	80.00
22	"	90.00
24	"	100.00
26	"	130.00
30	"	170 00
36	"	230.00
42	"	270.00

Four-Jaw, Either Style.

5-inch	Chuck	$30.00
6	"	32.00
9	"	42.00
12	"	56.00
15	"	64.00
18	"	75.00
21	"	95.00
22	"	110.00
24	"	120.00
26	"	160.00
30	"	200.00
36	"	285.00
42	"	325.00

PATENT IMPROVED.

THE HORTON COMBINATION LATHE CHUCK.

UNIVERSAL, INDEPENDENT AND ECCENTRIC.

TWO, THREE OR FOUR-JAW.

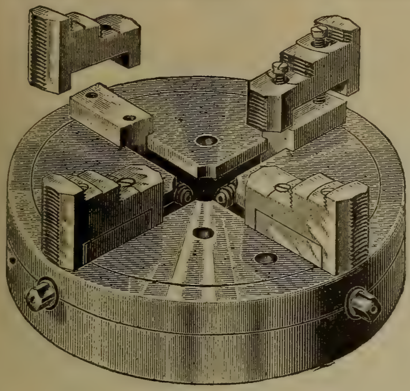


Fig. 1908.

With or without Reversible Jaws, as designated in order.

Price, Three-Jaw, either style of Jaw:

5-Inch,	$25.00	22-Inch,	$90.00
6 "	26.00	24 "	100.00
9 "	34.00	26 "	130.00
12 "	44.00	30 "	170.00
15 "	52.00	36 "	230.00
18 "	62.00	42 "	270.00
21 "	80.00		

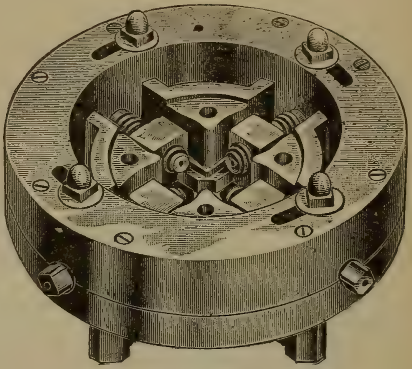


Fig. 1909.

This cut gives a view of the back of Fig. 1908 Four-Jaw Combination Chucks, showing the thumb-nuts and slots in shell, by means of which the Chuck is changed from Universal to Independent.

Price, Four-Jaw, either style of Jaw:

5-Inch,	$30.00	22-Inch,	$110.00
6 "	32.00	24 "	120.00
9 "	42.00	26 "	160.00
12 "	56.00	30 "	200.00
15 "	64.00	36 "	285.00
18 "	75.00	42 "	325.00
21 "	95.00		

UNIVERSAL LATHE CHUCK.

FOR CUTTING-OFF LATHE.

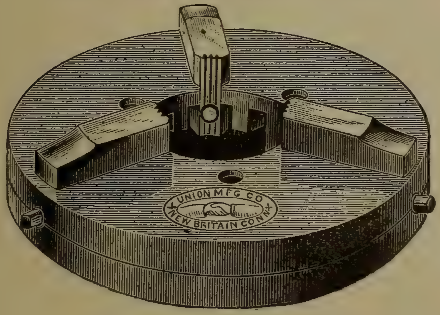


Fig. 1910.

4-in., with $1\frac{1}{8}$ in. hole through centre.
6 " $1\frac{3}{4}$ " " "
9 " $2\frac{1}{2}$ " " "
12 " 3 " " "
15 " $4\frac{1}{2}$ " " "
18 " $4\frac{1}{2}$ " " "
21 " $5\frac{1}{4}$ " " "
24 " $5\frac{1}{4}$ " " "

UNIVERSAL MILLING MACHINE CHUCK.

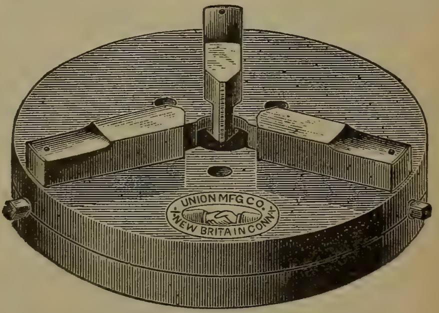


Fig. 1911.

The above Universal Chuck is especially designed for use on Milling Machines and Grinding Machines. The hole in the centre is made large enough in diameter to allow pipes or rods to pase entirely through the Chuck, and the bite of the jaws is on both sides of the pinion.

For price see above list.

DIMENSIONS OF

THREE-JAW UNION COMBINATION CHUCK.

This Chuck is a Combination Chuck, and can be used either Universal, Independent or Eccentric.

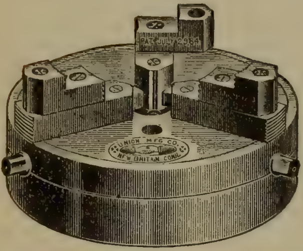


Fig. 1912.
FRONT VIEW.

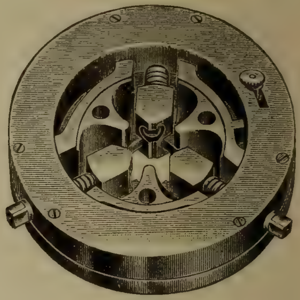
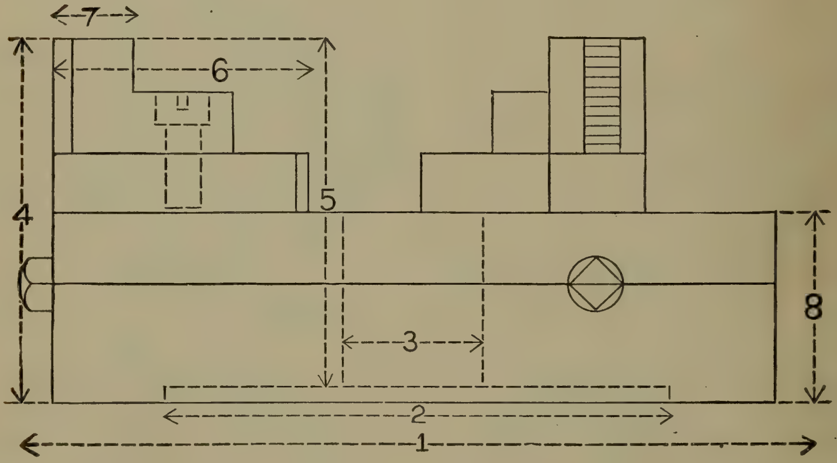


Fig. 1912.
BACK VIEW.



Size.	Will Hold.	Weight.	1	2	3	4	5	6	7	8
6	6 7/16	15	7 7/8	3 11/16	1 1/4	3 9/16	3	2 7/8	7/8	2 1/16
9	9 1/2	30 1/2	10 15/16	5 1/32	1 1/2	4 1/2	3 15/16	3 13/16	1	2 9/16
12	12 1/2	47	13 3/8	6 3/8	1 5/8	4 7/8	4 1/8	4 1/2	1	2 11/16
15	15 5/8	66	16 3/8	7 1/16	2	5 1/8	4 3/8	5	1	2 3/4
18	18 5/8	82 1/2	18 1/4	8	2 3/8	5 5/8	4 7/8	6 1/4	1 1/8	3
21	22 1/2	111	20 5/8	9 21/32	2 3/4	5 7/8	5	7 1/2	1 1/4	3
24	24 1/2	131 1/2	22 1/2	10	2 3/4	5 7/8	5	7 1/2	1 1/4	3
26	27	200	26 1/2	12	3 1/4	7	5 7/8	7 1/2	1 1/2	3 1/2
30	31 1/2	290	31	16 1/16	3 1/2	7	5 7/8	7 1/2	1 1/2	3 1/2
36	37	390	36 5/8	17 3/4	4	7	5 7/8	9 1/4	1 1/2	3 1/2

For prices see page 565.

UNION COMBINATION LATHE CHUCK.

PATENT REVERSIBLE JAWS.

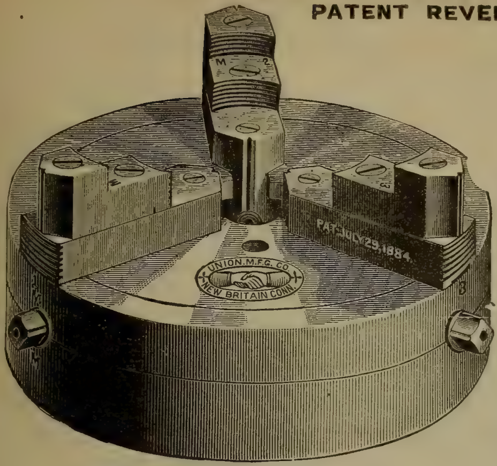

PAT. JULY 29, 1884.
UNION M.F.G. CO.
NEW BRITAIN CONN.

Fig. 1913.

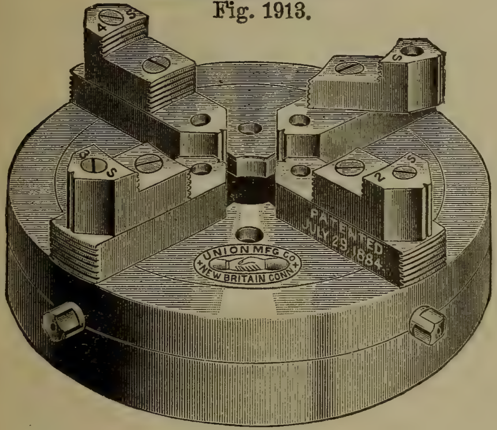

PATENTED JULY 29 1884.
UNION MFG. CO.
NEW BRITAIN CONN.

Fig. 1914.

Price Three Jawed Chucks.

Fig. 1913.

Diameter.		Price.
6-inch	Chuck	$26.00
9	“	34.00
12	“	44.00
15	“	52.00
18	“	62.00
21	“	80.00
24	“	100.00
30	“	170.00
36	“	230.00
42	“	270.00

Price Four Jawed Chucks.

Fig. 1914.

Diameter.		Price.
6-inch	Chuck	$32.00
9	“	42.00
12	“	56.00
15	“	64.00
18	“	75.00
21	“	95.00
24	“	120.00
30	“	200.00
36	“	285.00
42	“	325.00

For table of dimensions of above Chucks, see page 564.

THE CUSHMAN COMBINATION LATHE CHUCK.

Fig. 1915.

Concentric or Eccentric, Universal or Independent. Jaws Reversible.

Nominal Size. Inches.	Diameter Including Projecting Screw-Heads. Inches.	Diameter of Hole through Chuck. Inches	Diameter of Face-Plate Recess. Inches.	PRICE.	
				3 Jaw.	4-Jaw.
4	$5\frac{7}{8}$	1	$3\frac{3}{8}$	$26.00	. .
6	$8\frac{3}{16}$	$1\frac{1}{2}$	$4\frac{3}{4}$	26 00	32.00
9	$11\frac{1}{4}$	$2\frac{1}{4}$	7	34.00	42.00
12	$13\frac{7}{8}$	$2\frac{1}{2}$	7	44.00	56.00
15	17	$3\frac{1}{2}$	10	52.00	64.00
18	20	$3\frac{1}{2}$	10	62.00	75.00
21	$23\frac{1}{2}$	4	12	80.00	96.00
24	$26\frac{1}{2}$	4	12	100.00	120.00

An extra set of jaws (No. 2) is furnished with the 4-inch, as the jaws in this size do not reverse.

The jaws in the 6-inch also do not reverse, but extra sets can be furnished at $5.20 per set of three and $6.40 per set of four.

Bolts and wrench furnished with each Chuck.

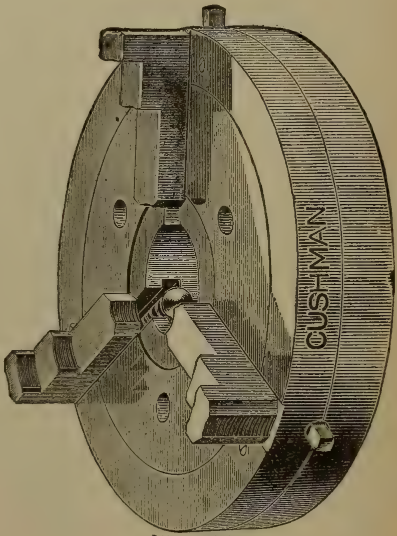


Fig. 1915.

IMPROVED INDEPENDENT CHUCKS.

REVERSIBLE JAWS.

UNION. **HORTON.** **CUSHMAN.** **WHITON.**

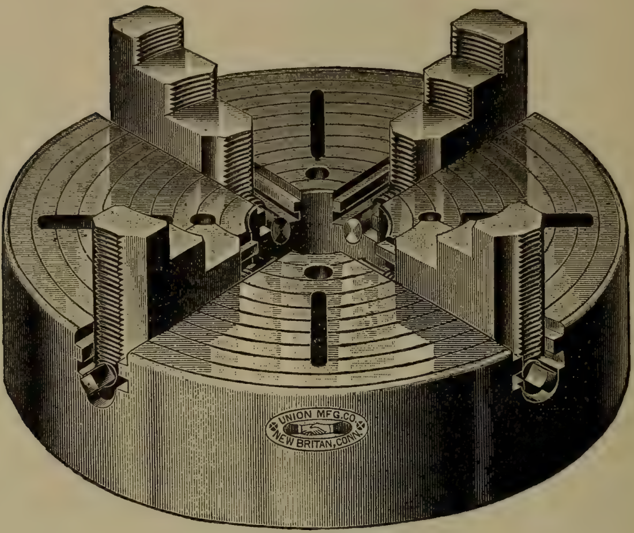

UNION MFG. CO.
NEW BRITAIN, CONN.

Fig. 1920.

Sizes.	Diameter Including Projecting Pinion Head.	Weight, Pounds.	Diameter of Hole Through Centre, Inches.	Diameter of Recess for Face-Plate, Inches.	Capacity of Chuck, Inches.	Price.
4	4 3/4	6	1	3 11/16	4 1/2	$14.00
6	6 1/2	11	2	5 1/32	6 3/4	18.00
8	8 9/16	25	2	5 1/32	8 3/4	22.00
9	9 5/8	34	2	5 1/32	9 3/4	24.00
10	10 1/2	35	2	5 1/32	10 3/4	26.00
12	12 3/4	54	3	7 1/16	12 3/4	30.00
14	14 5/8	72	3	7 1/16	14 3/4	34.00
15	15 5/8	80	3	7 1/16	15 3/4	35.00
16	16 11/16	86	3	7 1/16	16 3/4	38.00
18	18 1/2	113	4	8	19	44.00
20	20 5/8	122	4	10	21	50.00
22	22 7/8	172	4 3/4	10	23	57.00
24	24 3/4	193	4 3/4	10	25	65.00
26	27 1/4	275	5	12	27	80.00
28	29 1/2	375	5 1/4	12	29	100.00
30	30 1/8	400	5 1/2	16 1/8	31	120.00
32	32 1/2	460	5 1/2	16 1/8	33	150.00
34	34 1/2	490	5 1/2	17 3/4	35	180.00
36	36 1/2	495	5 1/2	17 3/4	36 3/4	210.00

WHITON PATENT GEARED SCROLL CHUCKS.

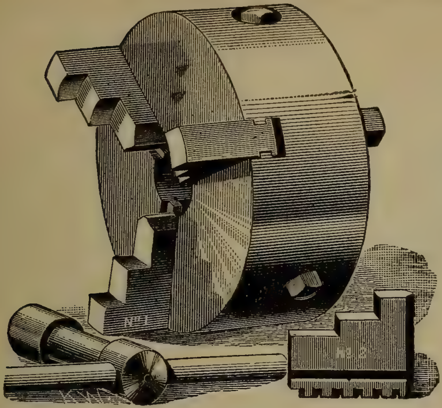


Fig. 1921.

All the Chucks of this line will hold work firmly and are designed to be mounted on Face Plates. Four-Jaw Chucks are provided with only two openings for the key.

Size.		One Set Jaws.	Two Sets Jaws.	Extra Sets Jaws, ordered without Chuck.
2½ inch	3 Jaws,	$7.50	$9.00	$2.00
	4 "	8.50	10.50	2.50
3 "	3 "	10.00	12.00	2.50
	4 "	11.00	13.60	3.00
4 "	3 "	12.00	14.40	3.00
	4 "	13.20	16.40	3.75
5 "	3 "	15.00	18.00	3.50
	4 "	16.50	20.50	4.50
6 "	3 "	18.00	21.60	4.00
	4 "	19.80	24.60	5.25
7½ "	3 "	20.00	24.00	4.50
	4 "	22.00	27.30	6.00
9 "	3 "	24.00	28.80	5.50
	4 "	26.40	32.80	7.50
10½ "	3 "	27.00	32.40	6.50
	4 "	29.70	37.00	8.50
12 "	3 "	30.00	36.00	7.50
	4 "	33.00	41.00	9.50
15 "	3 "	40.00	48.00	10.00
	4 "	44.00	54.60	12.00

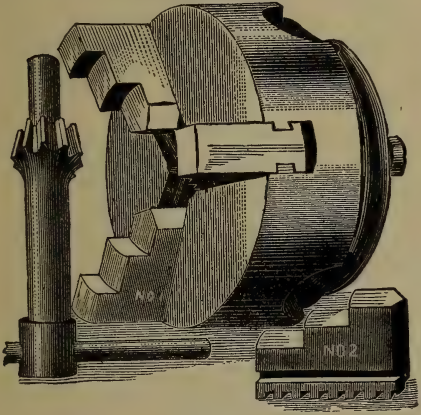
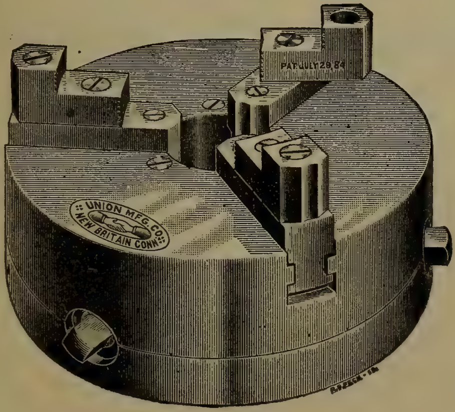


Fig. 1922.

IMPROVED GEARED OR PINION KEY CHUCKS.

Size.		One Set Jaws.	Two Sets Jaws.	Extra Sets Jaws, ordered without Chuck.
3 inch	3 Jaws,	$10.00	$12.00	$2.50
	4 "	11.00	13.60	3.00
4½ "	3 "	14.00	17.00	3.50
	4 "	15.40	19.00	4.50
6 "	3 "	18.00	21.60	4 00
	4 "	19.80	24.60	5.25
9 "	3 "	24.00	28.80	5.50
	4 "	26.40	32.80	7.50



UNION MFG. CO. NEW BRITAIN CONN.
PAT. JULY 29, 84

Fig. 1923.

UNION GEARED SCROLL CHUCK.

REVERSIBLE JAW.

Diameter.	Diameter of Hole. Inches.	Diameter of Face Plate. Inches.	Three Jaws.
2½ inch	⅝	..	$7.50
3 "	⅝	2⅞	10.00
4 "	¾	3 1/16	12.00
5 "	⅞	3¾	15.00
6 "	1 9/16	4¾	18.00
7½ "	2	4¾	20.00
9 "	2½	5¾	24.00
12 "	3	7	30.00
15 "	3¼	8	40.00

For price of 4-Jaw Chucks add 10 per cent.

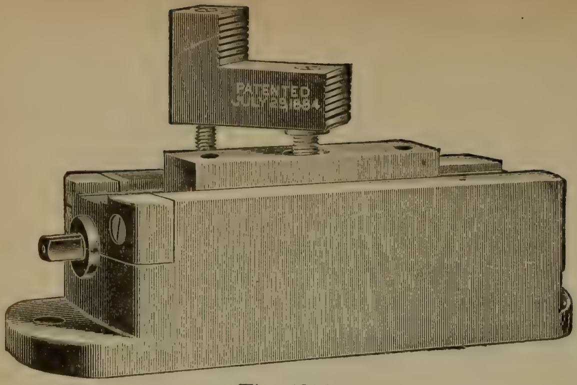


Fig. 1924.

FACE-PLATE JAW WITH REVERSIBLE JAW.

We furnish two bolts with each Jaw, and a steel key with each set.

Size, Inches.	Price per Set of Three, with either Solid or Reversible Jaws.	Price per Set of Four, with either Solid or Reversible Jaws.
8 inch,	$45.00	$60.00
10 "	60.00	80.00
12 "	90.00	120.00

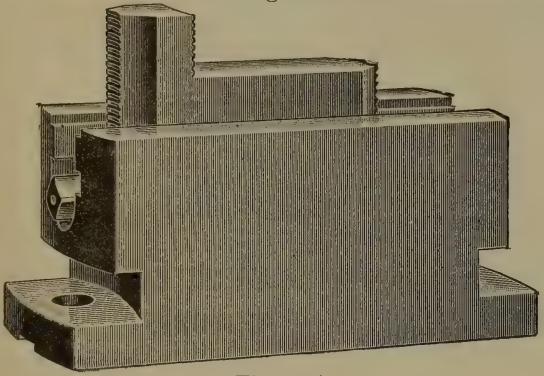


Fig. 1925.

EXTRA HEAVY FACE-PLATE JAWS.

Size.	Set of Three.	Set of Four.
10 inch,	$80.00	$105.00
12 "	120.00	160.00

Weight, Set of Four.

10 inch . . .	about 450 Lbs.
12 " . . .	" 550 "

UNION TWO-JAWED BOX BODY CHUCK.—WITH SLIP JAWS.

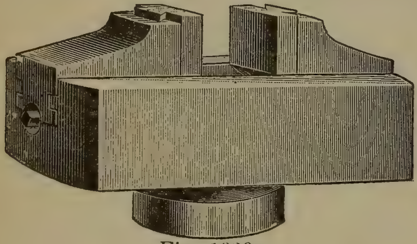


Fig. 1926.

Size, Inches.	Jaws take Inches.	Box Body.	Extra Slip Jaws. Iron, Per Pair.	Extra Slip Jaws. Steel, Per Pair.
7	3	$24.00	$1.00	$2 00
9	4	30.00	1.25	3.00
12	6	36.00	1.25	4.00
15	8	42.00	1.50	5.00

We can furnish this Chuck with Jaws operating independent, when so specified, without extra charge.

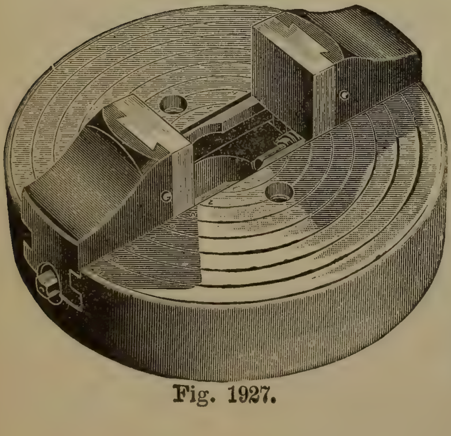


Fig. 1927.

ROUND BODY INDEPENDENT TWO-JAW CHUCKS.

6 inch Two-Jaw, with one pair Slip Jaws,	$20.00
8 " " " " "	24.00
10 " " " " "	28.00
12 " " " " "	34.00
14 " " " " "	40.00
15 " " " " "	42.00

Prices on other sizes on application.

SLIP JAWS FOR

6 in. Chuck, Round Body, reg. size, per pair,	$2.00
8 " " " "	2.25
10 " " " "	3.00
12 " " " "	4.00
14 " " " "	4.50
15 " " " "	5.00

DROP-FORGED LATHE DOGS.

THEY ARE DROP-FORGED FROM MILD STEEL.

Size.	Each.	Size.	Each.
⅜ inch	$0.50	2 inch	$1.40
½ "	.60	2½ "	1 60
¾ "	.70	3 "	1.80
1 "	.80	3½ "	2.00
1¼ "	.95	4 "	2.30
1½ "	1.10	5 " with straight tail	4.00
1¾ "	1.25		

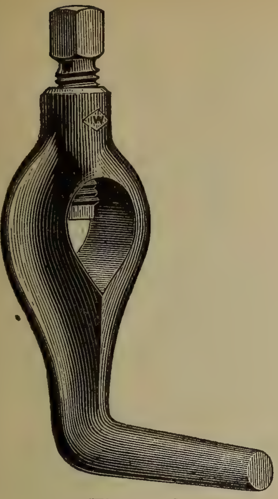


Fig. 1928.

HEAVY STEEL DOG.

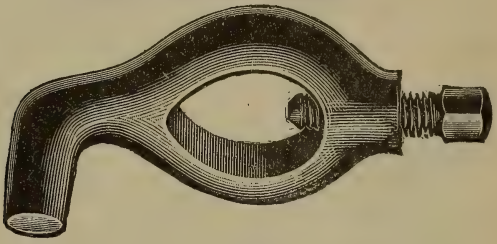


Fig. 1929.

This Dog has a very heavy Boss, so that if the thread wears, a heavier screw can be substituted.

No.	Inch.	Price.	No.	Inch.	Price.
1	⅜	$0.40	13	2¼	$1.35
2	½	.50	14	2½	1.45
3	⅝	.60	15	3	1.60
4	¾	.60	16	3½	1.80
5	⅞	.70	17	4	2.10
6	1	.70	18	4½	2.75
7	1⅛	.80	19	5	3.25
8	1¼	.80	Full Set of 19, $23.60		
9	1⅜	.95	20 (extra)	5½	4.00
10	1½	.95	21 "	6	5.00
11	1¾	1.10	22 "	7	6.00
12	2	1.20	23 "	8	7.00

One small set of 8, by ¼ in. to 2 in. . . .	6.25
One set of 12, by ¼ to 2 in. continued by ½ to 4 in.	13.20

DIE DOG.

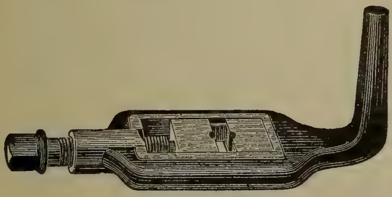


Fig. 1930.

No.		Each.
1	1¼ inch between sides .	$3.00
	Extra Dies, per pair .	.50
2	2 inches between sides .	4.00
	Extra Dies, per pair .	.75

CLAMP DOG.

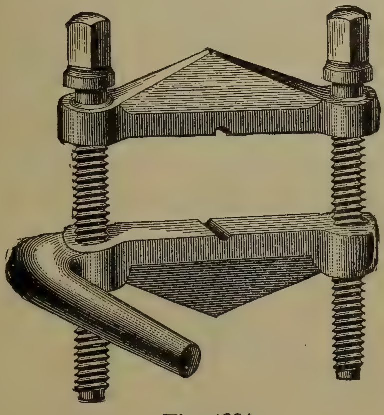


Fig. 1931.

DROP-FORGED.

No. 1, 1¾ inch between screws	$1.50
No. 2, 2¼ " " "	2.00
No. 3, 2¾ " " "	2.50
Per set of three	5.50

PATENT CLAMP DOG.

Patent Clamp Dog for holding taper pieces. It can also be used on straight pieces with the same good result.

No. 1, 1¾ inch between screws	$1.75
No. 2, 2¼ " " "	2.25
No. 3, 2¾ " " "	2.75
Per set of four	7.25

MALLEABLE IRON CLAMP DOGS.

No. 1, opens 1 inch	$1.00
No. 2, " 1½ "	1.10
No. 3, " 2 "	1.30
No. 4, " 3 "	1.60
Sets of four	5.00

MALLEABLE IRON CLAMPS.

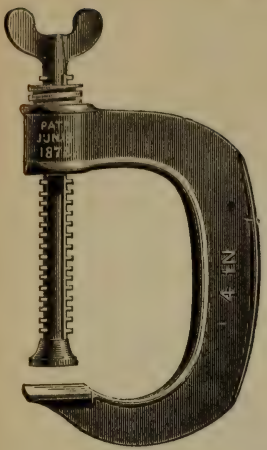


Fig. 1932.

ADJUSTABLE.

3 inch,	per doz.,		$4.50
4	"	"	6.50
5	"	"	7.50
6	"	"	9.00
8	"	"	11.50

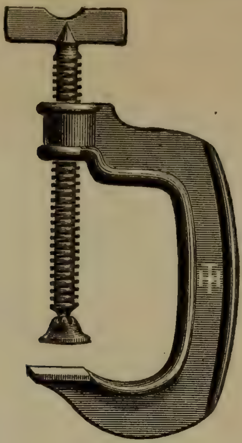


Fig. 1933.

HEAVY PATTERN SCREW.

2 inch,	per doz.,		$2.25
3	"	"	4.00
4	"	"	6.00
5	"	"	7.00
6	"	"	8.75
8	"	"	11.00

By turning the Bolt, Fig. 1932, one-quarter turn to the left, it can be moved its full length out or in; when turning it to the right it operates like any other screw.

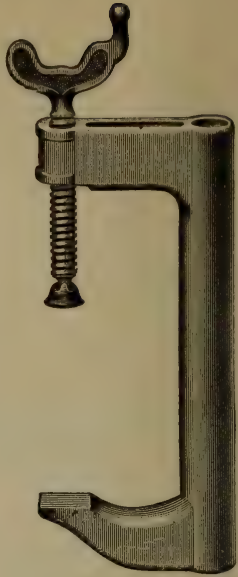


Fig. 1934.

EXTRA HEAVY.

6 inch,	per doz ,		$11.00
8	"	"	15.00
10	"	"	16.00
12	"	"	17.00

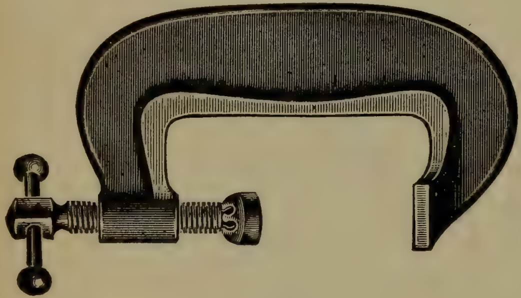


Fig. 1935.

HEAVY STEEL CLAMP.

No.	Opens.	Price	No.	Opens.	Price.
1.	2 in.	$1.75	7.	10 in.	$3.75
2.	3 "	2.00	8.	12 "	4.25
3.	4 "	2.25	9.	14 "	5.00
4.	5 "	2.50	10.	16 "	6.00
5.	6 "	2.75	11.	18 "	7.00
6.	8 "	3.25			

Full Set, 11 sizes, $40.50.

The back is 2½ inches from centre of screw.

EXTRA HEAVY STEEL BRIDGE CLAMPS.

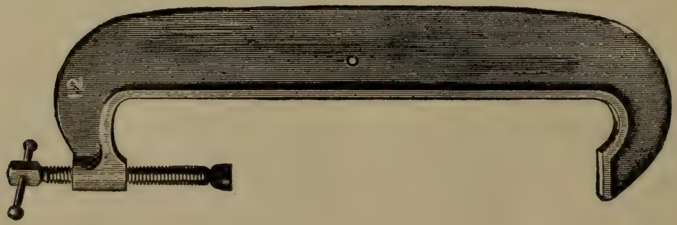


Fig. 1936.

No. 12 opens 24 inches	Price, $12.00
" 13 " 30 "	" 16.00

DROP FORGED STEEL "C" CLAMP.

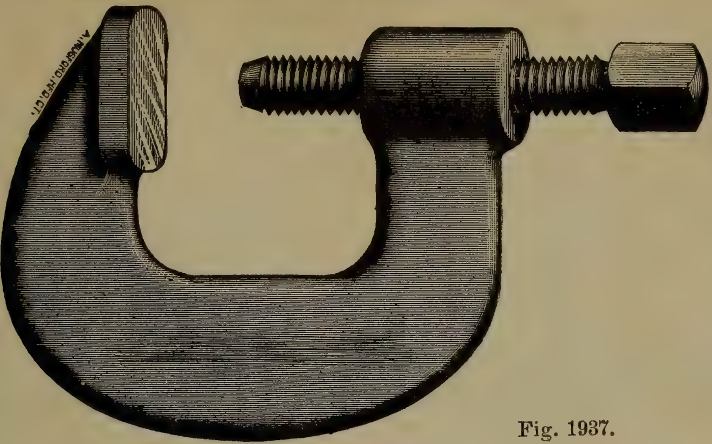

A. MURPHY MFG. CO.

Fig. 1937.

No.	Opens.	Weight.	Price.	No.	Opens.	Weight.	Price.
1	1¼ in.	5 ounces	$1.00 each.	4	4½ in.	7½ pounds	$3.25 each.
2	2¼ in.	2 pounds	2.00 each.	5	6½ in.	11½ pounds	4.00 each.
3	3¼ in.	5¼ pounds	2.50 each.				

THE RENSHAW RATCHET DRILL.

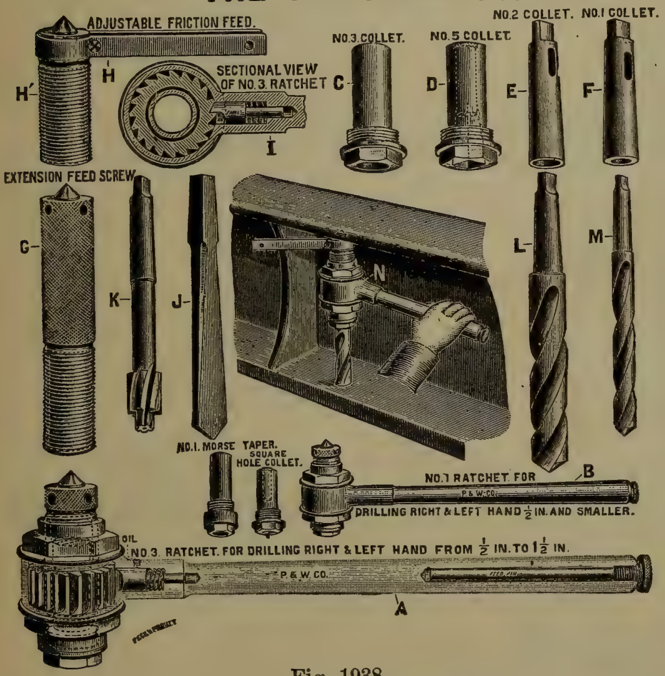

ADJUSTABLE FRICTION FEED.
H
H'
SECTIONAL VIEW OF NO. 3. RATCHET
I
NO. 3. COLLET.
C
NO. 5 COLLET.
D
NO. 2 COLLET.
E
NO. 1 COLLET.
F
EXTENSION FEED SCREW
G
K
J
N
L
M
NO. 1. MORSE TAPER.
SQUARE HOLE COLLET.
NO. 1 RATCHET FOR DRILLING RIGHT & LEFT HAND ½ IN. AND SMALLER.
B
P. & W. CO.
OIL
NO. 3. RATCHET. FOR DRILLING RIGHT & LEFT HAND FROM ½ IN. TO 1½ IN.
P. & W. CO.
A

Fig. 1938.

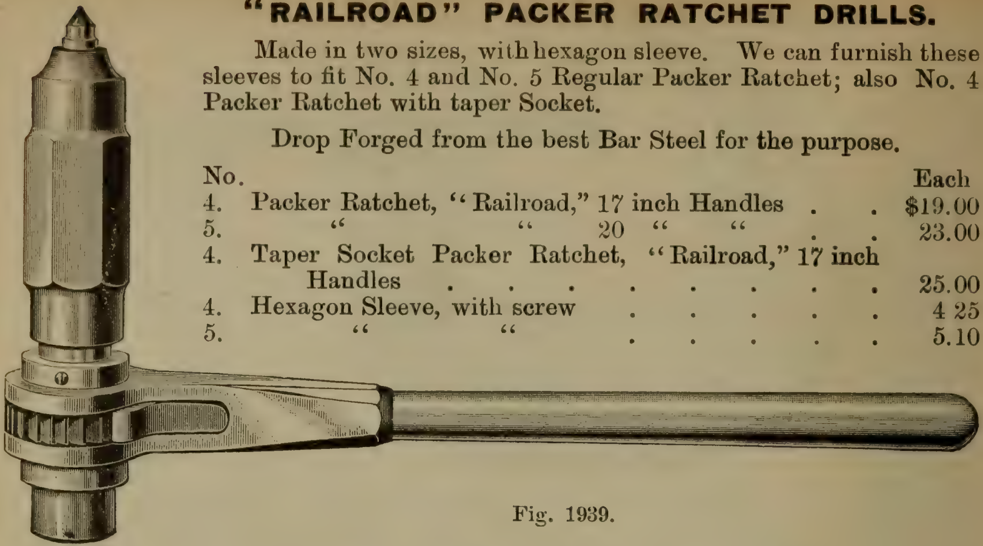
No. 1 has one collet for drills, with shank $\frac{11}{32}$ inch square at shoulder, and one collet for drills, fitting No. 1 Morse's Standard Taper Socket. Weight, 16 ounces. Price, $11.00. Discount for either collet, if not wanted, $1.60 Weight, 1 ounce each.

No. 3 has one collet, No. 5, for drills, with shank $\frac{11}{16}$ square at shoulder, of ½ to 1½ inches diameter, which are the extreme sizes that this ratchet is adapted to carry, and collets Nos. 1, 2 and 3, for Morse's Standard Taper Shanks. No. 3 and No. 5 collets are held in the spindle by screw-thread. No. 1 and No. 2 collets are tapered externally to fit No. 3 socket. Deductions will be made for collets, when not wanted, as follows: No. 1, weight 8 ounces, and No. 2, weight 6 ounces, $1.10 each; Nos. 3 and 5, weight 8 ounces each, $1.75 each. Price, with four collets, $15.00. Weight 8 pounds, 14 ounces.

The No. 3 ratchet for use of boiler-makers, for whose use it is especially adapted, is provided with an extended feed-screw, having a knurled shank 3½ inches long, by which the ratchet may be held by hand in starting the drill, and fed by hand also. When this extended screw is substituted for the regular one, the price is not changed; if it is taken as an extra attachment, it is furnished at $3.50.

An adjustable friction feed attachment can be furnished for $4.00.

	No 1.	No. 3.
Length of handles over all	9½ in.	18 in.
Length from top of spindle to bottom of feed collet	3 in.	5 in.
Length of feed	1½ in.	2¾ in.



"RAILROAD" PACKER RATCHET DRILLS.

Made in two sizes, with hexagon sleeve. We can furnish these sleeves to fit No. 4 and No. 5 Regular Packer Ratchet; also No. 4 Packer Ratchet with taper Socket.

Drop Forged from the best Bar Steel for the purpose.

No.		Each
4.	Packer Ratchet, "Railroad," 17 inch Handles . .	$19.00
5.	" " 20 " " . .	23.00
4.	Taper Socket Packer Ratchet, "Railroad," 17 inch Handles	25.00
4.	Hexagon Sleeve, with screw	4 25
5.	" "	5.10

Fig. 1939.

GENUINE PACKER RATCHET DRILLS.

FOR FLAT DRILLS ONLY.

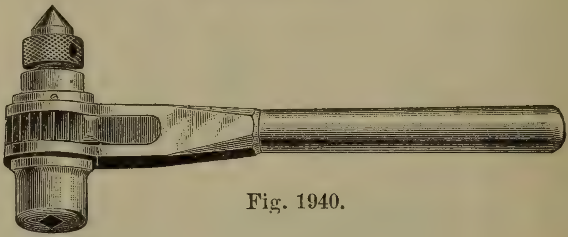
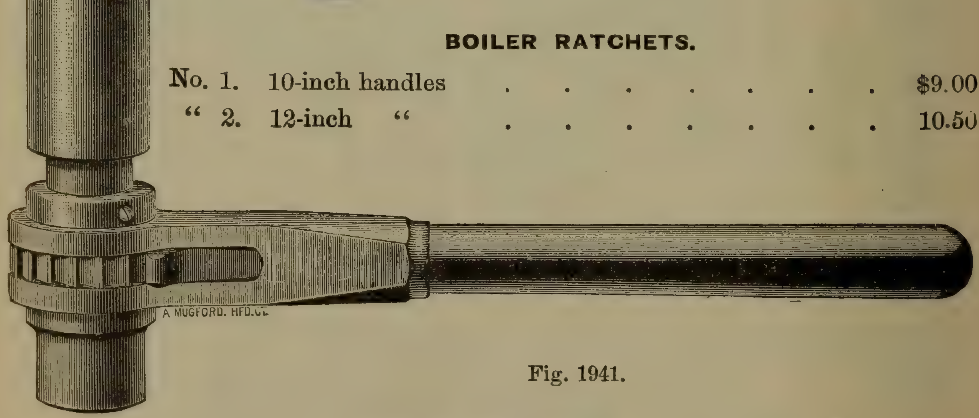


Fig. 1940.

BOILER RATCHETS.

No. 1.	10-inch handles	$9.00
" 2.	12-inch "	10.50



A MUGFORD. HFD.CT.

Fig. 1941.

PACKER RATCHETS.

No. 1.	10-inch handles .	$10.50	No. 4.	17-inch handles .	$19.00
" 2.	12-inch " .	13.50	" 5.	20-inch " .	23.00
" 3.	15-inch " .	16.00			

TAPER SOCKET RATCHET DRILLS, "PACKER."

WITH TAPER HOLE IN SOCKET.

No. 2.	12-inch handle, taking No. 1 Morse Taper Shank Drills, $\frac{5}{8}$ to $\frac{29}{32}$, inclusive .	$16.00
" 3.	15-inch " " " 2 " " $\frac{15}{16}$ to $1\frac{1}{4}$, " .	20.00
" 4.	17-inch " " " 3 " " $1\frac{9}{32}$ to 2 inches inclusive	25.00

For Extra Drill Sockets and Sizes see Page 73.

IMPROVED PATENT UNIVERSAL ANGULAR AND RATCHET DRILLING MACHINE.

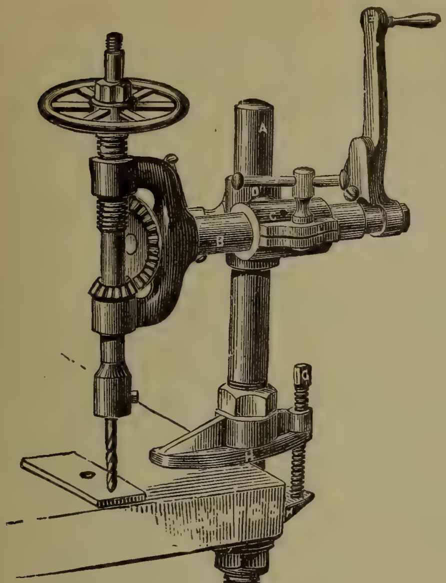


Fig. 1942.

These Drilling Machines are now made of steel, and are first-class in all respects. For repair work in mills they are almost indispensable, as they can be attached to a broken machine without taking it apart, and swung around to drill at any angle. By placing the crank on the drill spindle, it will work with a ratchet or without. We send a chuck with each machine, which will hold $\frac{1}{16}$ to $\frac{1}{4}$ inch drills. One Twist Drill, $\frac{1}{4}$ inch, with $\frac{1}{2}$ inch shank, is sent with each machine. For $\frac{1}{4}$ inch drills, and all larger sizes, the $\frac{1}{2}$ inch shanks are recommended.

PRICE LIST.

No. 1.	Weight, 34 lbs.	Drills up to $\frac{5}{8}$ inch hole	$20.00
No. 2.	Weight, 64 lbs.	Drills up to 1 inch hole	25.00
No. 3.	Weight, 108 lbs.	Drills up to $1\frac{1}{2}$ inch hole	40.00

No. 2 Drill has two sets of gears, making either speeded or geared back machine.

ANVIL, VISE AND DRILL.

Inserted Steel Vise Jaws.

There is no more convenient tool than this Anvil, Vise and Drill. The Anvil has a steel face, 4x8 inches, the vise jaws are $3\frac{1}{2}$ inches wide, and are steel-faced. The Drill Standard and Spindle are steel. The Spindle is bored for Drills with $\frac{1}{2}$ inch shank. With each Drill Press we furnish chuck to hold drills smaller than $\frac{1}{4}$ inch. One $\frac{1}{4}$ drill with $\frac{1}{2}$ inch shank is furnished with every complete Vise and Drill.

Weight of Anvil, Vise and Drill, 80 lbs. Price, $18.00.

Weight of Anvil and Vise, 60 lbs. Price, $10.00.

Weight of Drill Press, 20 lbs. Price, $8.00.

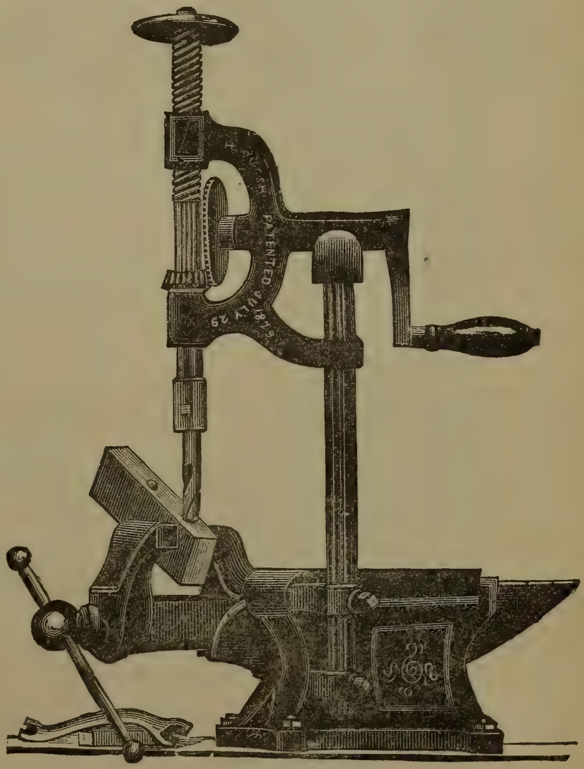


Fig. 1943.

HAND DRILL.

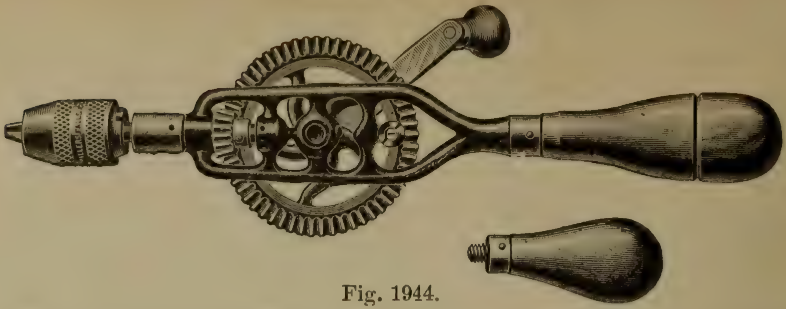


Fig. 1944.

These Drills are now made with three jaws, resting in solid sockets, and there are no springs to get out of place or out of order. The chucks are nickeled and the handles Cocobola. They hold drills from 0 to $\frac{3}{16}$.

Fig. 1944, including eight fluted points in hollow handle, ... Per doz., $15.00
Fig. 01944, No. 5, including eight fluted points in hollow handle, . . " 18.00

A side handle, as shown in cut, is now furnished with this drill.

Fig. 01944 is same as Fig. 1944, except it is double-geared. Length over all, 11½ inches.

HAND DRILL—BALL BEARING.

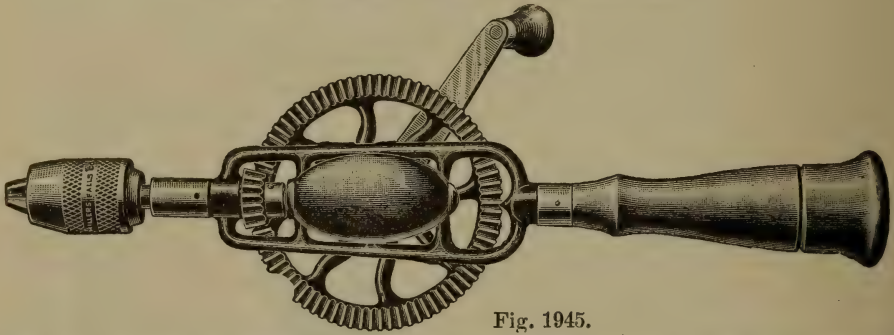


Fig. 1945.

This Drill is same in general finish as No. 1, described above. It has cut gears and an adjustable friction roll to prevent gears from springing out of engagement. The chuck holds from 0 to $\frac{17}{64}$.

Price, with eight fluted points, ... Per doz., $30.00

BREAST DRILL—BALL BEARING.

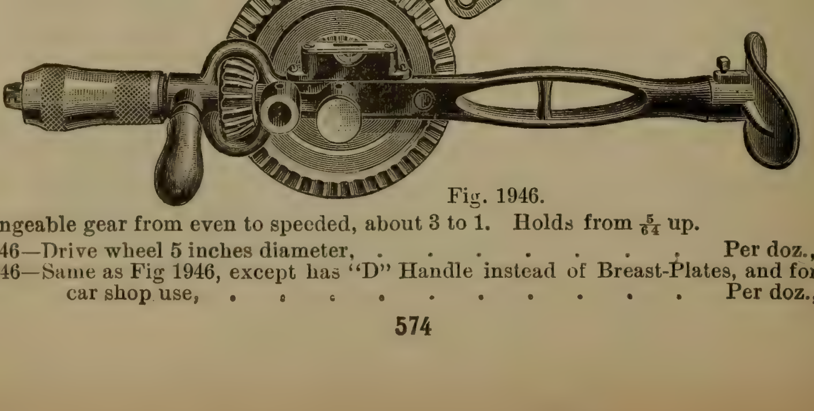


Fig. 1946.

Changeable gear from even to speeded, about 3 to 1. Holds from $\frac{5}{64}$ up.

Fig. 1946—Drive wheel 5 inches diameter, ... Per doz., $30.00
Fig. 01946—Same as Fig 1946, except has "D" Handle instead of Breast-Plates, and for car shop use, ... Per doz., 30.00

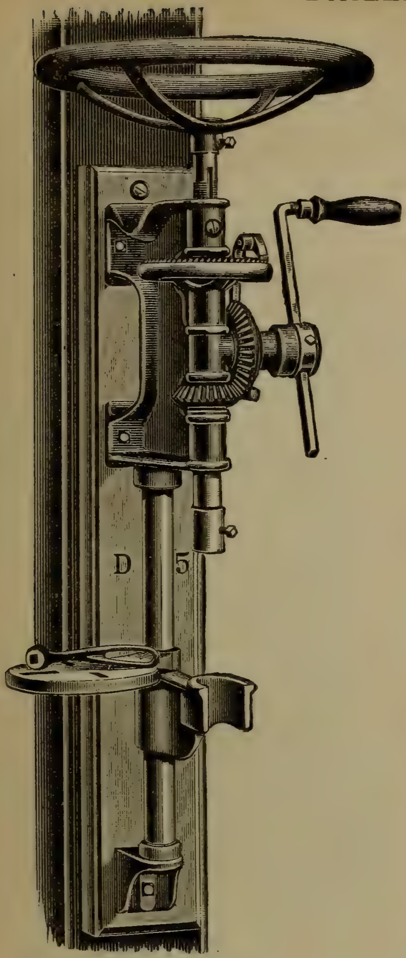


Fig. 1947.

A Strong, Serviceable Drill Press.

Compact and thoroughly well-made machine in every particular.

Drills to 1-inch diameter hole.

Drills to centre of 14-inch circle.

Swinging Table Easily Adjusted to Height.

FIG. 1947.–SWINGING TABLE.

Price, $8.50.

An Iron Bed Machine.

Has three changes of feed.

Drills to One Inch Diameter Hole.

FIG. 1948.–STRAIGHT TABLE.

Price, $15.00.

FIG. 1949.–SWINGING TABLE.

Price, $16.00.

Hole in Spindles either $\frac{1}{2}$-inch or $\frac{41}{64}$ as ordered.

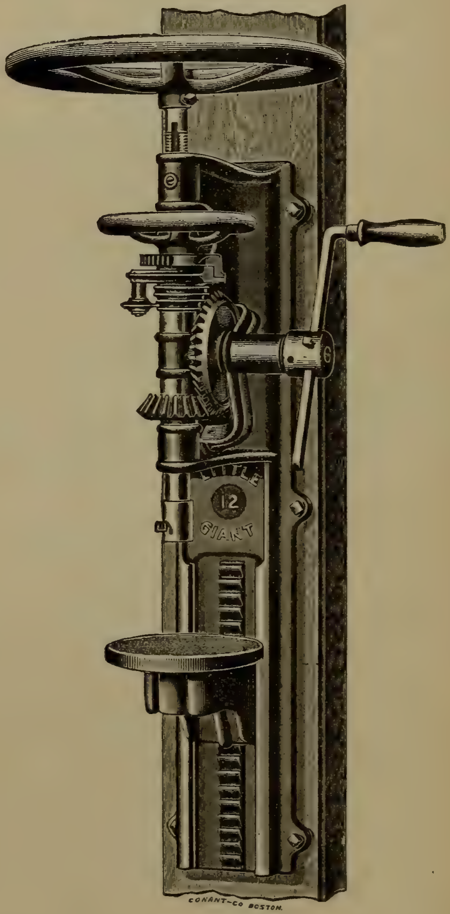


Fig. 1948.

For Drilling Machine Vise see page 577.

DRILLING MACHINES
FOR POWER.

We can furnish this Machine with two step Cone Pulley, if desired, at same price.

FIG. 1950.—STRAIGHT TABLE.
Price $18.00.

FIG. 1951. SWINGING TABLE.
Price, $19.00.

For Drilling Machine Vise see page 577.

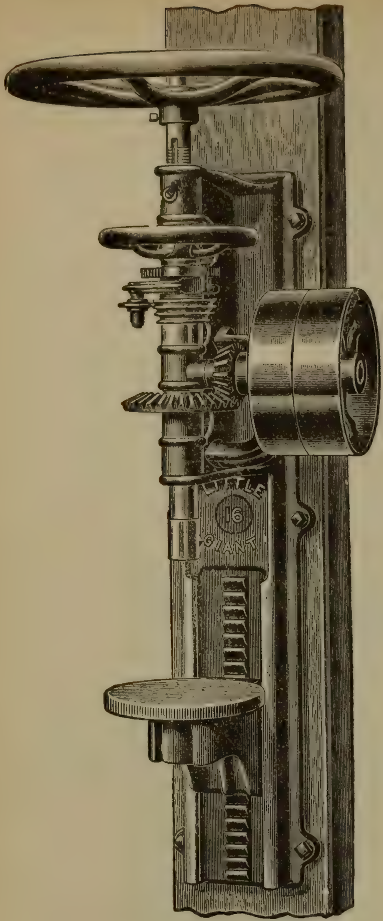


Fig. 1950.

Fig. 1952.—This Machine is adapted for use either by Hand or Power.
Drills to $\frac{3}{4}$-inch.
Weight of this Machine 150 lbs.
We send Swing Table, unless otherwise ordered.
We furnish this Machine with Cone Pulley, if desired, at same price.

FIG. 1952.—STRAIGHT TABLE.
Price, $21.00.

FIG. 1953.—SWINGING TABLE.
Price, $23.00.

For Counter Shafts see page 577.

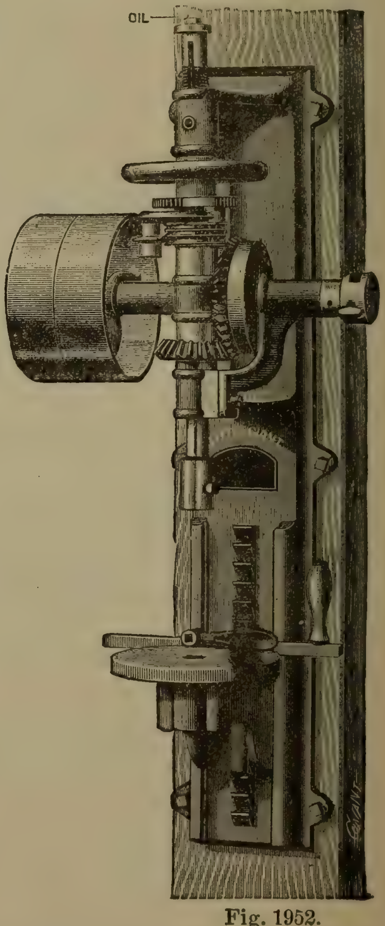


Fig. 1952.

For Drilling Machine Vise see page 577.

DRILLING MACHINE.

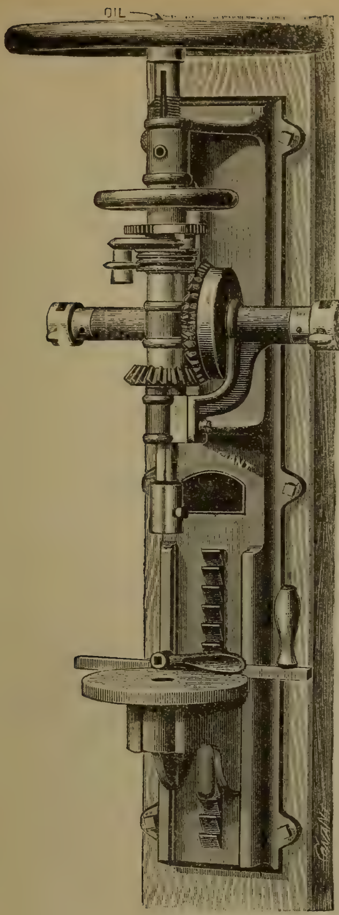


Fig. 1954.

Use Left-hand Crank for Large Drills. The power is multiplied one and one-half times.

Use the Right-hand Crank for Small Drills. The speed is multiplied one and one-half times.

Drills to $1\frac{1}{4}$ inches.

Fig. 1954.	**STRAIGHT TABLE** .	Price,	$18.00
" 1955.	**SWINGING TABLE.** .	"	20.00

$\frac{1}{2}$ or $\frac{41}{64}$ inch hole in spindle, as desired.

COUNTERSHAFT FOR DRILLING MACHINES.

See page 576.

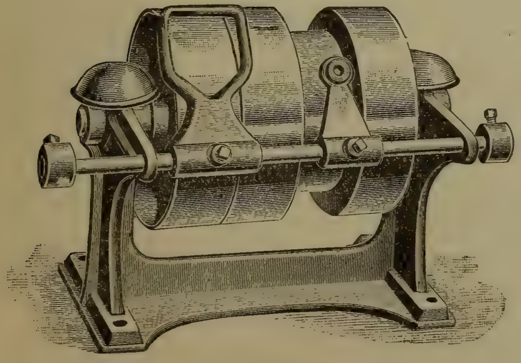


Fig. 1956.

Pulleys are 8 inches diameter, 2 inches face	$10.00

DRILLING MACHINE VISE

For holding all shapes of Iron.

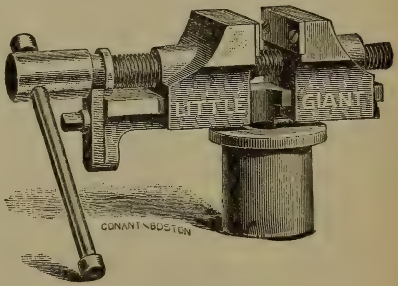


Fig. 1957.

Has steel jaws; hole through shank to take any length. Arranged so as to be in centre with spindle, or, if desired, can be thrown to one side. Jaws are operated by right and left hand screw.

This Vise can be used on Figs. 1948, 1950, 1952, 1954 Drills.

	Price.
Complete . . .	$8.00

UPRIGHT DRILLS, 20-INCH SWING.

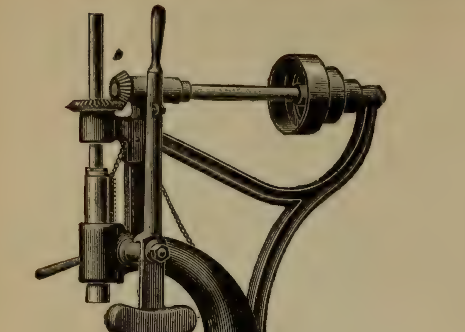

R.J.H.SMITH.CO.CIN.O.

Fig. 1958.
Weight, 475 Lbs.

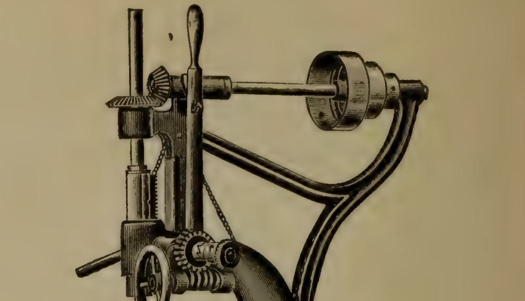


Fig. 1960.
Weight, 525 Lbs.

Fig. 1958.	20-inch Drill with lever feed, round base, price	$80.00
Fig. 1959.	20-inch Drill with combined lever and screw feed, round base, price	90.00
Fig. 1960.	20-inch Drill, combined lever and screw feed, square base, price.	95 00
Fig. 1961.	20-inch Drill, lever feed, square base, price	85.00

Fig. 1958 shows the plain lever feed and round base, and Fig. 1960 shows combined lever and screw feed and square base.

The table revolves in the supporting arm and may be swung to right or left out from under the drill spindle. The bevel gears are accurately cut from solid blanks. The cog rack is forged from steel, and the teeth are milled out to gauge. The pinion on the cross shaft is forged from a steel bar, turned to size, and the teeth cut to a gauge.

We can furnish these Drills with friction pulleys for tapping purposes when so desired.

SPECIFICATIONS.

Height, 63 inches.
Diameter of column, $5\frac{1}{4}$ inches.
Diameter spindle, $1\frac{3}{16}$ inches.
Vertical travel spindle, $7\frac{1}{2}$ inches.
Greatest distance spindle to table, 28 inches.
Distance from spindle to floor, 42 inches.
Distance from spindle to top of square base, 40 in.
Diameter large pulley on cone, 7 inches.
Diameter small pulley on cone, 3 inches.
Cones carry 2 in. belt, countershaft pulleys, $2\frac{1}{4}$ in.
Spindle bored No. 2 Morse Taper.

20-INCH STANDARD UPRIGHT DRILL.

WITH POWER FEED AND AUTOMATIC STOP.

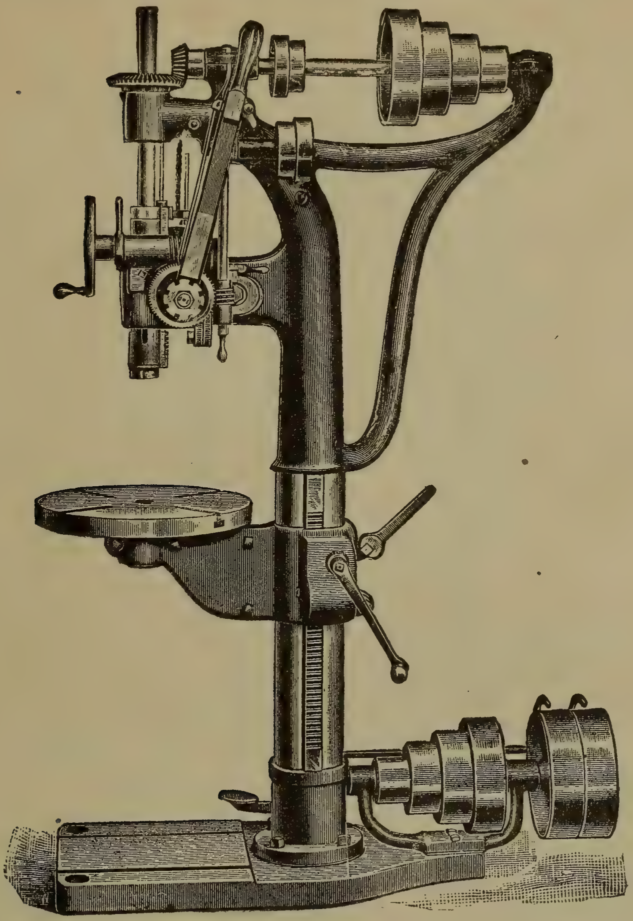


Fig. 1962

SPECIFICATIONS.

Distance from post to centre of table, 10¼ in. Diameter of table, 16½ in. Vertical traverse of table, 15 in. Greatest distance from spindle to base, 41 in. Greatest distance from spindle to table, 25 in. Diameter of spindle, 1½ in. Hole in spindle fits Morse taper No. 3. Driving pulleys are 10 in. x 2½ in. Cone pulleys carry 2¼ in. belt. Speed of lower shaft for ordinary work, 275 revolutions. Floor space required, 16 in. x 48 in. Total height of machine, 68½ in. Weight, 650 lbs.; boxed, 850 lbs. Price, ... $

21-INCH UPRIGHT DRILL.

WITH BACK GEARS, POWER FEED, AUTOMATIC STOP, WHEEL AND LEVER FEED COMBINED.

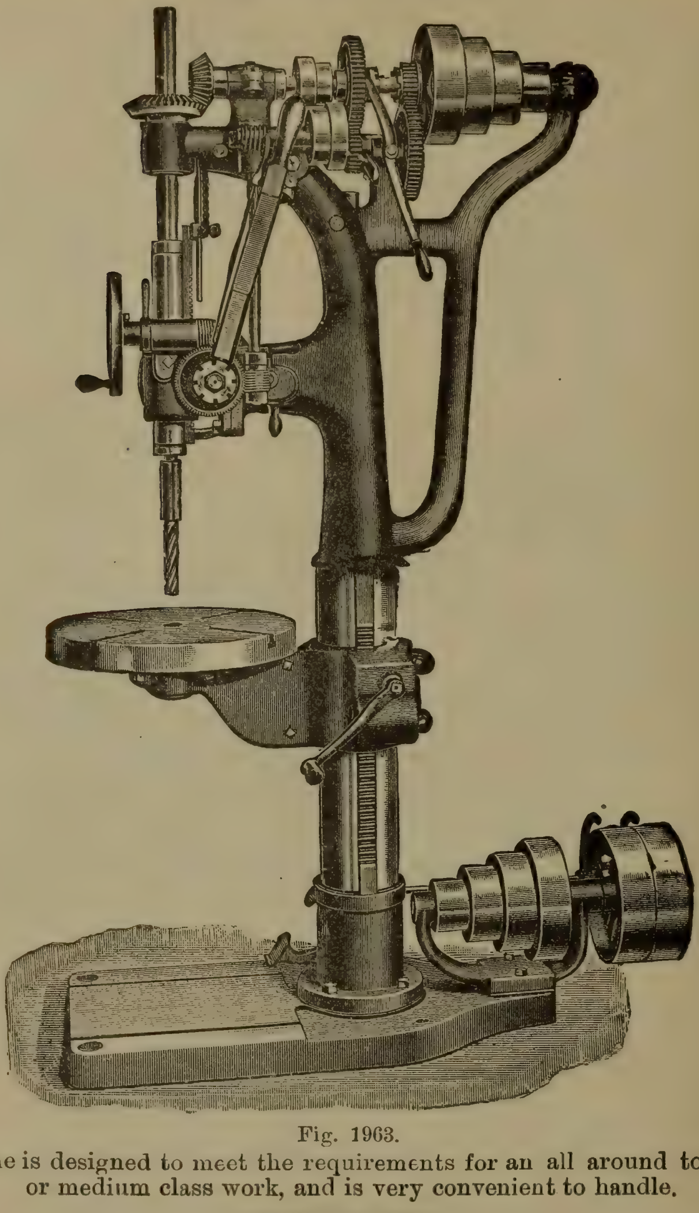


Fig. 1963.

This machine is designed to meet the requirements for an all around tool for light or medium class work, and is very convenient to handle.

SPECIFICATIONS.

Diameter of spindle 1½ inches. Vertical traverse of spindle 10 inches. Diameter of table 18½ inches. Vertical traverse of table 15½ inches. Distance from post to centre of spindle 10⅝ inches. Greatest distance from spindle to base 43½ inches, from spindle to table 25 inches. Hole in spindle conforms to Morse No. 3 taper. Driving pulleys are 10x2½ inches. Width of belt on cones 2¼ inches. Speed of lower shaft for ordinary work 275 revolutions. Floor space required 52x22 inches. Total height 78 inches. Weight 850 lbs.; boxed 1,000 lbs. Price . . . $

IMPROVED 25-INCH STANDARD UPRIGHT DRILL.

With back gears, power feed and automatic stop.

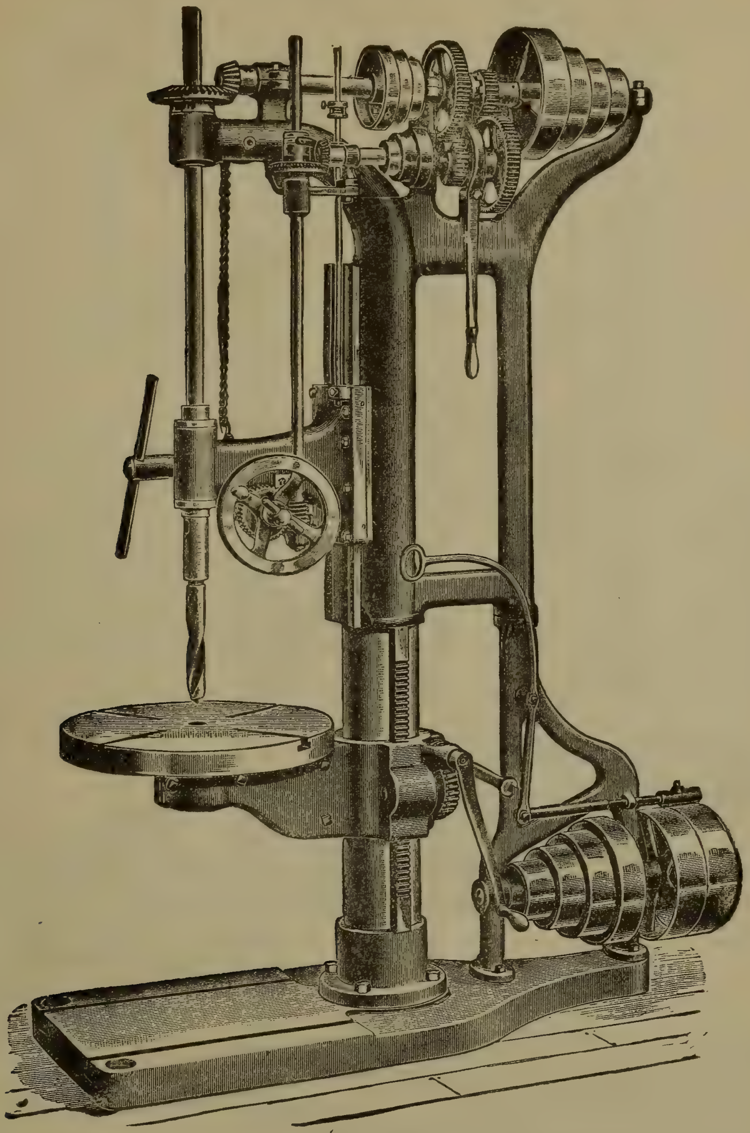


Fig. 1964.

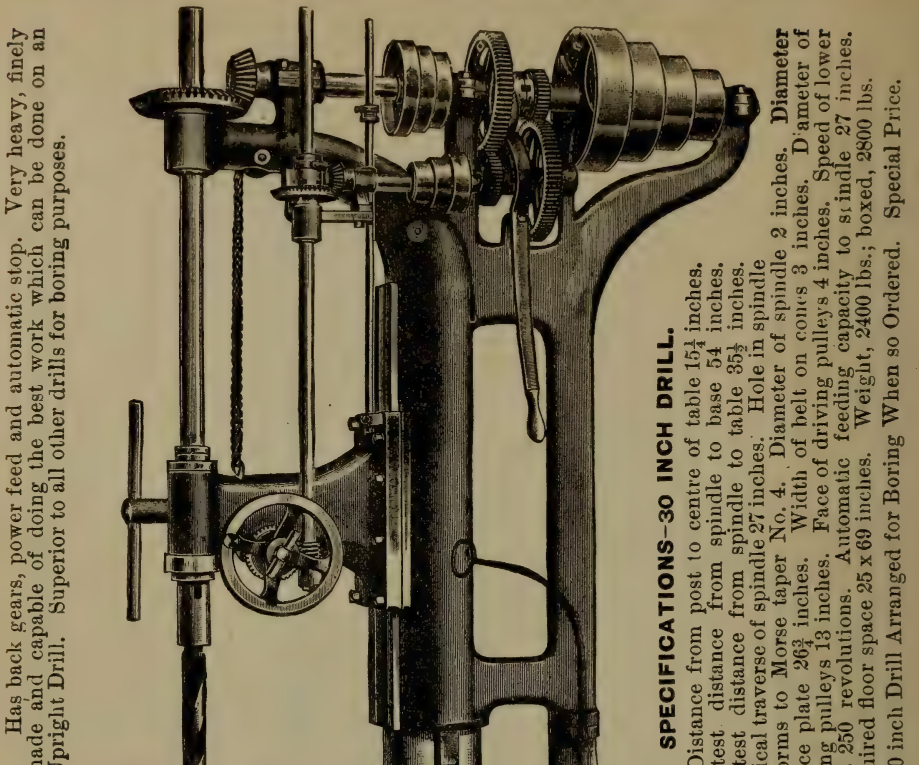
For capacity and convenience in operating this Drill has no superior.

SPECIFICATIONS.

Distance from post to centre of table, $12\frac{7}{8}$ in. Greatest distance from spindle to base, 50 in. Greatest distance from spindle to table, $33\frac{1}{2}$ in. Vertical traverse of spindle, 23 in. Hole in spindle conforms to Morse taper No. 4. Diameter of spindle, $1\frac{5}{8}$ in. Diameter of face plate, 22 in. Width of belt on cones, $2\frac{1}{2}$ in. Diameter of driving pulleys, 12 in. Face of driving pulleys, 3 in. Speed of lower shaft, 275 revolutions. Automatic feeding capacity to spindle, 23 in. Required floor space, 24 in. x 60 in. Weight, 1,600 lbs.; boxed 1,800 lbs.

30 AND 36 INCH UPRIGHT DRILLS.

Has back gears, power feed and automatic stop. Very heavy, finely made and capable of doing the best work which can be done on an Upright Drill. Superior to all other drills for boring purposes.



SPECIFICATIONS—30 INCH DRILL.

Distance from post to centre of table 15¼ inches. Greatest distance from spindle to base 54 inches. Greatest distance from spindle to table 35½ inches. Vertical traverse of spindle 27 inches. Hole in spindle conforms to Morse taper No. 4. Diameter of spindle 2 inches. Diameter of face plate 26¾ inches. Width of belt on cones 3 inches. Diameter of driving pulleys 13 inches. Face of driving pulleys 4 inches. Speed of lower shaft 250 revolutions. Automatic feeding capacity to spindle 27 inches. Required floor space 25 x 69 inches. Weight, 2400 lbs.; boxed, 2800 lbs.

30 inch Drill Arranged for Boring When so Ordered. Special Price.

Fig. 1965.

SPECIFICATIONS—36 INCH DRILL.

Distance from post to centre of table 18⅜ inches. Greatest distance from spindle to base 56 inches. Greatest distance from spindle to table 38 inches. Verticle traverse of spindle 29 inches. Hole in spindle conforms to Morse Taper No. 4. Diameter of spindle 2¼ inches. Width of belt on cones 3 inches. Diameter of driving pulleys 14 inches. Face of driving pulleys 4 inches. Speed of lower shaft 225 revolutions. Automatic feeding capacity to spindle 29 inches. Required floor space 30 x 84 inches. Weight, 4000 lbs.; boxed, 4400 lbs.

Prices on Application.

14-INCH SWING ENGINE LATHE.

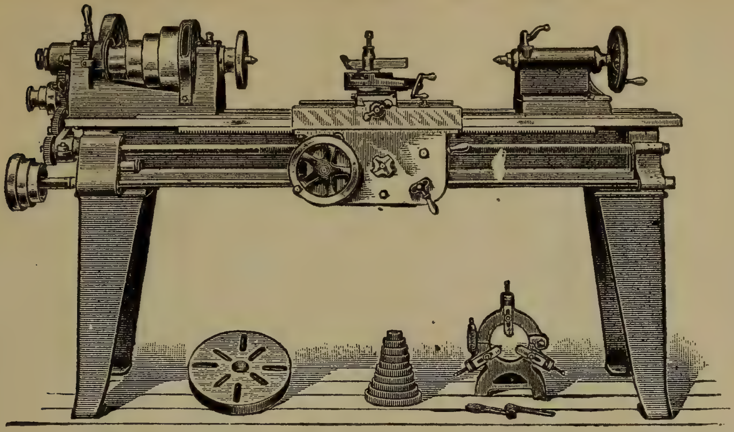


Fig. 1966.

HAS COMPOUND REST AND POWER CROSS FEED.

Head and Feed Gears covered. Compound Rest of entirely new design, fully graduated, quick adjustment,-positive grip. Wide Range of Threads that can be cut with the gears furnished, including 11½ pipe thread. Centre Rest has Hardened Steel Jaws. Very heavy and carefully proportioned in all parts. Workmanship unexcelled. Large, Hollow-head Spindle. Wide Bed and Broad, Well-proportioned V's. Carefully Graduated Speeds and Feeds. Belt and Gear Feeds are interchangeable. Locking Device for holding carriage when the cross feed is in use. Lateral and Cross Feeds cannot be engaged at the same time.

DIMENSIONS.

Swing over bed 14½ inches.

Swing over plain or compound rest 9 inches.

Diameter of hole in spindle 1⅛ inches.

Centre hole in spindle Morse Taper No. 3.

Face Plate Screw 2 inches in diameter, 6 threads.

Front bearing 2⅛x4 inches.

Back bearing 1⅞x3¾ inches.

Four step cone for 2-inch belt.

Diameter of largest step of cone 8⅝ inches.

Diameter of smallest step of cone 3⅜ inches.

Ratio of back gearing 10 to 1.

Diameter of tail spindle 1¾ inches.

Cuts threads with English lead screw from 4 to 36.

Cuts threads with metric lead screw from 8 mm. to 1.5 mm.

Distance between centres with 6-ft. bed 42 inches.

Net weight with 6-foot bed 1,468 lbs.

Boxed weight with 6-foot bed 1,720.

Weight for extra foot of bed 75 lbs. net.

Pulleys on the countershaft are 10x3 inches.

Countershaft should make 150 revolutions.

Tools for this lathe should be made of 1x½-inch steel.

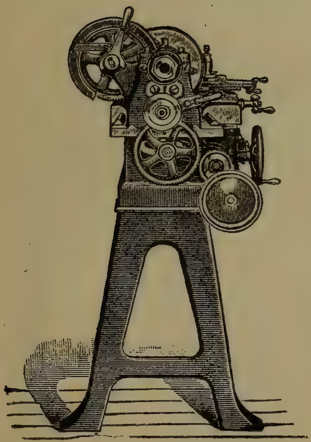


Fig. 1966.

END VIEW.

LEVER AND SCREW FEED LATHE.

WITH PATENT COUNTERSHAFT.

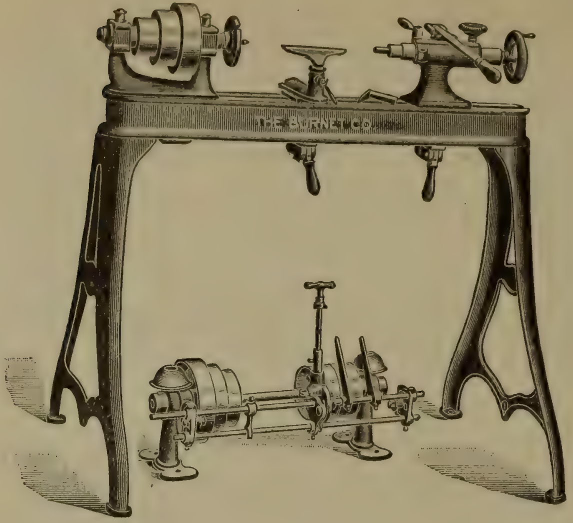

THE BURNET CO.

Fig. 1967.

Patented March 31, 1885.

The Lathe shown has 10 inch swing, 4 foot bed, stands 36 inches high. All of these speed Lathes have hollow spindle, bronze or cast iron boxes with check nuts on end of spindle to take up the wear. The boxes are set into the frame of the machine as in the best of modern engine Lathes and have every provision known for adjustment, self oiling and exclusion of dust. These Lathes are furnished with either flat or V-ways, and are made in the most thorough manner possible.

Prices on Floor Legs.

Swing.	Bed.	Without Patent Lever Attachment, with Countershaft	With Patent Lever Attachment, with Countershaft.	Countershaft, if not wanted, deduct.	Extra length of Bed, per foot.
10 inch,	4 feet,	$75.00	$87.50	$15.00	$5.00
13 "	5 "	95.00	115.00	20.00	7.00
16 "	6 "	125.00	145.00	25.00	10.00

When ordered with short or bench legs above prices are $10.00 less.

METAL SAWING MACHINES.

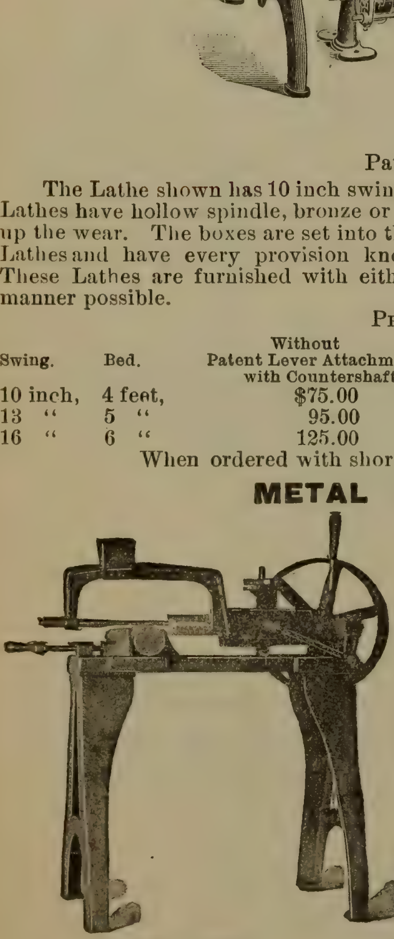


Fig. 1968.

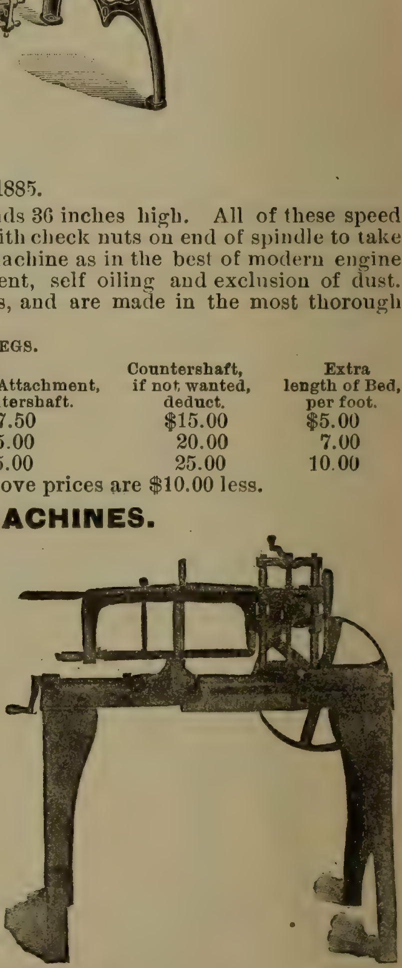


Fig. 1969.

Fig. 1968.	Capacity 4 inches.	Price, $20.00
Fig. 1969.	" 5 "	" 25.00

EBERHARDTS' PATENT QUICK RETURN STROKE SHAPERS.

Has Eight Changes of Speed for Every Change of Stroke.

REGULAR SHAPING MACHINE.

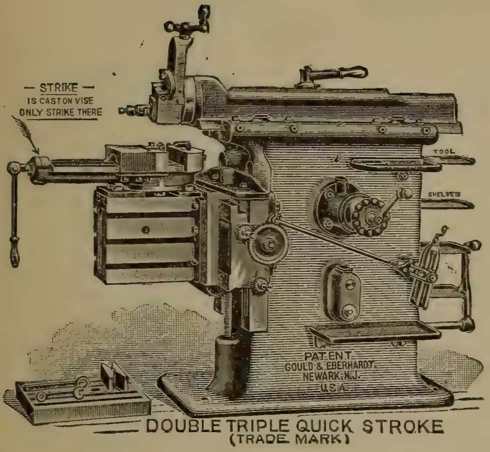


Fig. 1970.

PRICES ON REGULAR SHAPER.

Planes.					
Stroke, inches.	Width, inches.	Height from Angle, inches.	Takes between Jaws, inches.	Weight about, lbs.	Price.
16	17	14	10	1900	$350
20	20	20	12	2200	400
24	25	18	15	3000	450
26	30	15½	14	4000	600

Counter Pulleys.					
Diam. inches.	Face, inches.	Rev. Minute.	Boxed Weight about lbs.	Cubic Feet, about.	Floor Space Required about, inches.
12	3¼	180	2300	70	45 x 76
12	3¼	180	2800	95	51 x 78
14	3¼	180	3800	110	54 x 90
14	3¼	200	5000	130	54 x 90

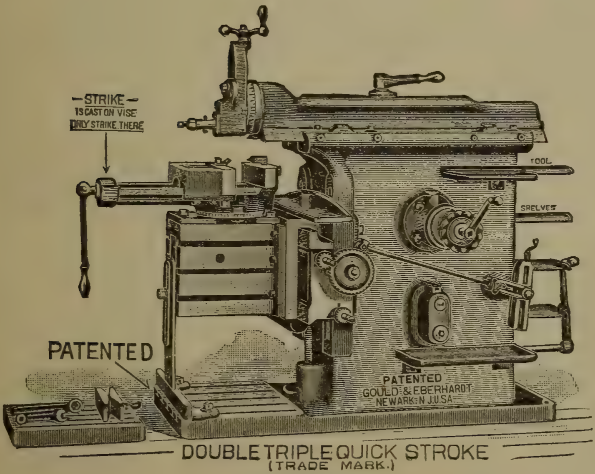


Fig. 1971.

PRICES WITH EXTENSION BASE.

Planes.					
Stroke, in.	Width, in.	Height from Angle, in.	Takes bet. Jaws, in.	Weight about, lbs.	Price
16	20	17	10	2300	$350
20	20	17	12	2500	400
24	25	18	15	3500	450
26	30	15	14	4600	600
28	30	24	16	5600	800
32	36	24	16	7000	1,000

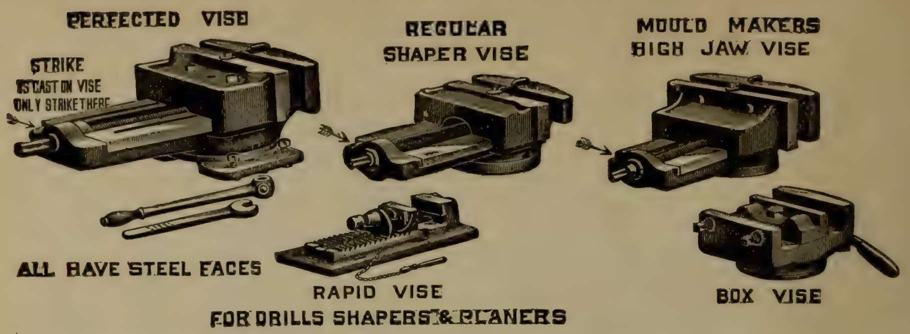
Counter Pulleys.				
Diam. in	Face, in.	Rev. Minute.	Boxed Weight about	Floor Space Required about inches.
12	3¼	200	2700	45 x 81
12	3¼	180	3000	51 x 78
14	3¼	180	4000	54 x 99
14	3¼	200	5800	54 x 101
14	4¼	300	6600	69 x 105
16	4½	300	8500	75 x 117

PRICES ON SINGLE GEARED SHAPER.

Planes.						Counter Pulleys					
Stroke, inches.	Width, inches.	Stroke, from Angle. inches.	Takes between Jaws, inches.	Weight about, lbs.	Price.	Diam. inches.	Face, inches.	Rev. Minute.	Boxed Weight about, lbs.	Cubic Feet, about	Floor Space Required about, inches.
8	14	8	6	900	$200	8	2	130	1200	40	32 x 50
12	17	10	8	1200	260	9	3	130	1500	46	36 x 54
14	17	13	8	1400	275	10	3	130	1700	60	42 x 56
18	20	15	10	1800	300	12	3½	130	2200	80	45 x 60

Tilting Table furnished at an additional cost.

PATENT SHAPER VISES.



PERFECTED VISE.

For Machine Size, in.	Takes Between Jaws, in.	Width Jaws, in.	Height Jaws, in.	Weight About lbs.	Price.
24-26	15	14	3	260	$70.00
28	16	19½	4½	500	110.00
32	16	19½	4½	500	110.00

These vises are furnished with a pair of centres and a pair of special taper holding jaws also.

RAPID VISE.

Takes Between Jaws, in.	Width Jaws, in.	Height Jaws, in.	Weight About lbs.	Price.
6¾	3	1	21	$15.00
9¼	4	1¼	36	16.75
11¾	5	1½	61	22.25
9¼	4	2	42	19.00
9½	8	2	150	50.00

REGULAR SHAPER VISE.

For Machine Size, in.	Takes Between Jaws, in.	Width Jaws, in.	Height Jaws, in.	Weight About lbs.	Price.
12	8	9¾	1¾	85	$35.00
16	10	12	2¼	120	45.00
20	12½	12	2¼	135	50.00

BOX VISE.

For Machine Size, in.	Takes Between Jaws, in.	Width Jaws, in.	Height Jaws, in.	Weight About lbs.	Price.
16	6	8	2¼	100	$35.00
24	11	11	2½	160	45.00

HIGH JAWED VISE.

For Machine Size, in.	Takes Between Jaws, in.	Width Jaws, in.	Height Jaws, in.	Weight About lbs.	Price.
16 & 20	14	10	4	150	$55.00
24 & 26	14	14	4½	290	70.00

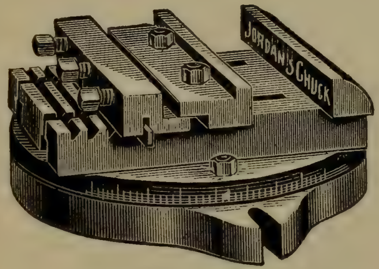


Fig. 1972.
Round Base.

JORDAN PLANER CHUCKS.

		ROUND BASE.					SQUARE BASE.		
Length of Jaw.	Depth of Jaw.	Jaw Will Open.	Diameter of Base.	Space Required Between Planer Posts.	Weight of Chuck.	Price.	Space Required Between Planer Posts.	Weight of Chuck.	Price.
6	1¼	3½	10	11¾	84	$25.00	11¼	66	$20.00
8	1⅞	5	11¾	14	94	30.00	13½	76	25.00
10	2¼	6	13½	15½	128	36.00	15	100	30.00
12	2¼	7	16	17½	158	40.00	17	140	35.00
15	2½	9½	18	21	251	50.00	20	151	45.00
18	2⅝	11	19½	24	297	60.00	23	194	55.00
24	2⅝	16	25	29	475	90.00	28	300	75.00
30	2¾	21	31½	34	575	120.00	32	400	100.00

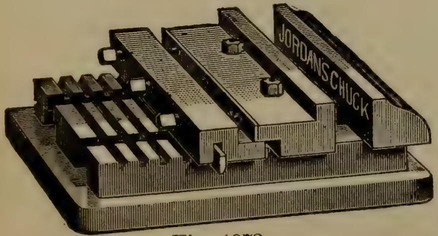


Fig. 1973.
Square Base.

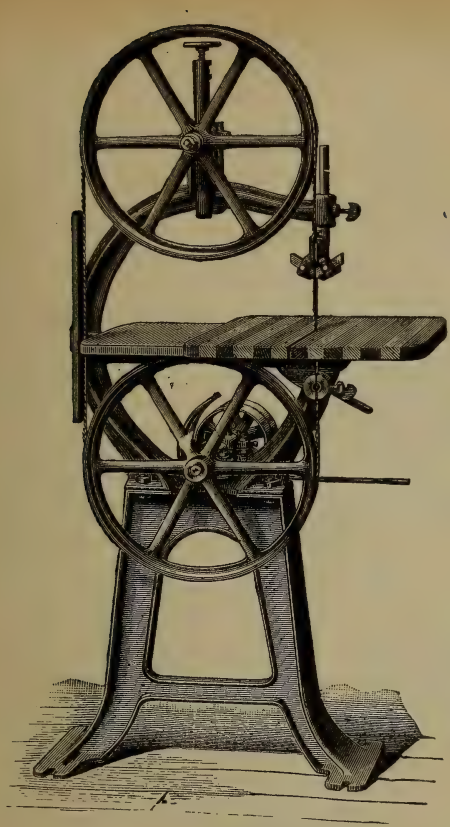


Fig. 1974.

FIG. 1974. 20-IN. BAND SAW.

DIMENSIONS—Height over all, 66 inches. Floor to centre of pulleys, 28¼ inches. Floor to top of table, 40 inches. Table to upper saw guide when up, 7 inches. Saw to frame at back of table, 20 inches. Band wheels, 20 inches diameter. Floor space, 24x24 inches. The table, 20x24 inches, can be tilted to any desired angle for bevel sawing—especially desirable for pattern work.

PULLEYS—Tight and loose, 7 inches diameter for 3 inch belt, provided with shifter and lever, as shown; no countershaft required.

SAW BLADES—We furnish two saws with each machine—¼ and ⅜, No. 22 gauge, 10 feet 1 inch long, set and sharpened ready for use.

SHIPPING WEIGHT—300 lbs.

SPEED—350 to 400 revolutions per min.

SIZE AND PRICE.

20-inch Machine, with tight and loose pulleys	$50.00
Extra Saw Blades, 10 feet 1 in. x ¼ or ⅜ in. each	1.50

FIG. 1975. 26-IN. BAND SAW.

DIMENSIONS—Diameter of band wheels, 26 inches. Face of band wheels, 1½ inches. Distance clear between saw and frame, 25 inches. Distance clear under guide when raised, 10 inches. Size of table, 20x24 inches. Height of table from floor, 40 inches.

TABLE—The table is made of iron and can be set level or at any angle for bevel sawing.

PULLEYS—Tight and loose, 10 inches diameter for 3-inch belt. Provided with shifter and lever as shown; no countershaft required.

SHIPPING WEIGHT—500 lbs.

SPEED—350 to 450 revolutions per minute.

Each machine is supplied with one saw blade and outfit for brazing saws.

SIZE AND PRICE.

26-inch Machine, with tight and loose pulleys	$80.00
26-inch Machine, with foot treadles for one or two men, including pulleys	90.00
Extra Saw Blades, 13 ft. 9 in. x ⅜ in. each	2.40

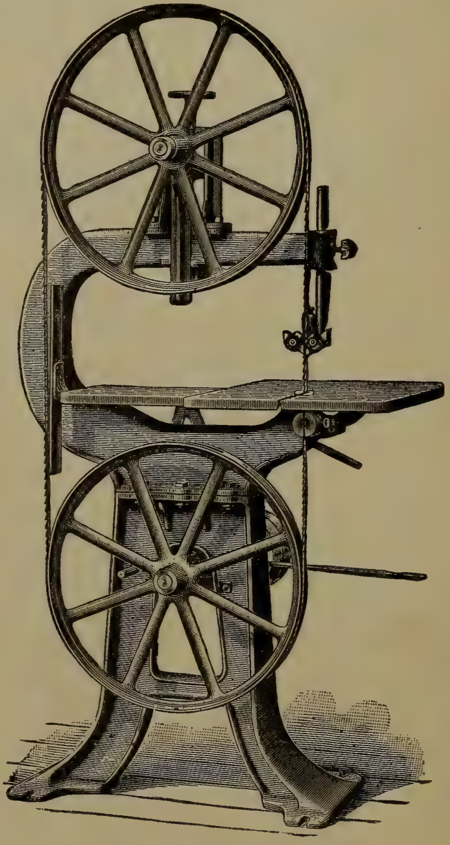


Fig. 1975.

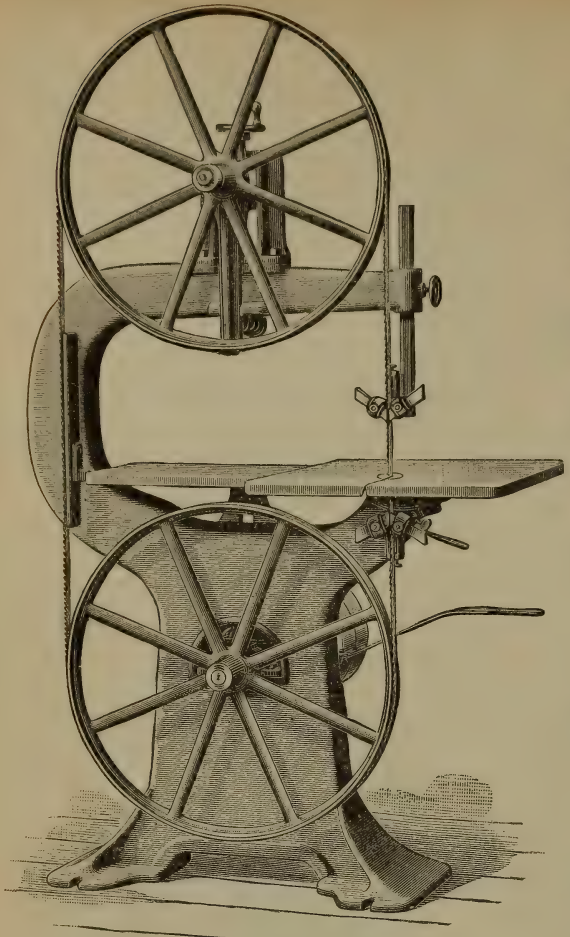


Fig. 1976.

FIG. 1976.

32-INCH BAND SAW.

DIMENSIONS–Diameter of band wheels, 32 inches. Face of band wheels, 1¾ inches. Distance clear between saw and frame, 31 inches. Distance clear under guide when raised, 12 inches. Size of table, 24x28 inches. Height of table from floor, 40 inches.

TABLE–The table is made of iron and can be set level or at any angle for bevel sawing.

PULLEYS–Tight and loose, 12 inches diameter for 3½-inch belt. Provided with shifter and lever as shown, no countershaft required.

SHIPPING WEIGHT–900 lbs.

SPEED–350 to 450 revolutions per minute.

Each machine is supplied with one saw blade and outfit for brazing saws.

SIZE AND PRICE.

32-inch Machine, with tight and loose pulleys	$105.00
Extra Saw Blades, 16 ft. 5 in. x ½ in., each	3.00

FIG. 1977.

36-INCH BAND SAW.

DIMENSIONS–Diameter of band wheels, 36 inches. Face of band wheels, 2 inches. Distance clear between saw and frame, 35 inches. Distance clear under guide when raised, 15 inches. Size of (tilting) table, 28x32 inches. Material used for table, iron. Height of table from floor, 40 inches. Diameter of belt pulleys, 12 inches. Width of belt to use, 4 inches. Length of saw blades (maximum), 18 feet 6 inches x ½ inch or ¾ inch.

THE BAND WHEELS are cast iron, carefully balanced, and covered with endless rubber bands, making a rigid wheel that stays permanently true under all conditions. The Upper Wheel is adjustable in all directions.

THE TABLE tilts to any desired angle up to 45 degrees, for bevel or conical sawing, and is held rigidly at any point by means of an eccentric lever. The guides are made with hard wood surfaces, making injury to saw impossible. Tight and loose pulleys are provided with shifter lever under table where it is in easy reach, or it can be operated with the foot when more convenient to do so.

Each machine is supplied with one saw blade and outfit for brazing saws.

SIZE AND PRICE.

36-inch Machine, with tight and loose pulleys	$130.00
Extra Saw Blades, 18 ft. 6 in. x ½ in., each	3.70
" " " 18 " 6 " x ¾ " "	4.25

Weight of machine, 1,100 lbs.

Illustration of 36-inch Band Saw sent on application.

SINGLE HEAD BOLT CUTTERS.

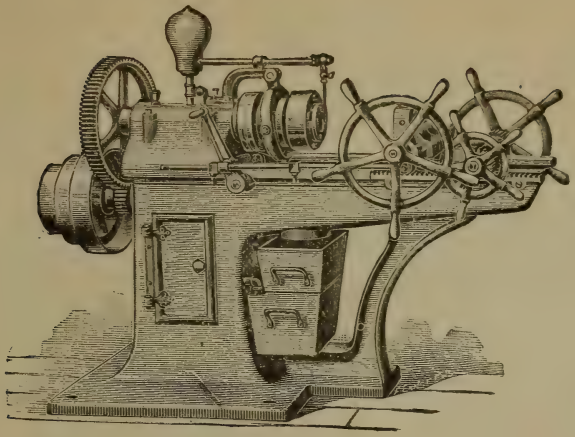


Fig. 1978.

NO. 1.

Threads and Taps from $\frac{3}{16}$ to $\frac{3}{4}$ inch, right or left hand thread. Machine complete with open die head, combined hand and automatic opening and closing device, pump, countershaft and wrenches; six sets of case dies, one set each, $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch; six nut taps of same sizes as dies; and one adjustable tap chuck and stop die. Price . . . . $

NO. 2.

Threads and Taps from $\frac{1}{4}$ to 1 inch, right or left hand thread. Machine complete with open die head, combined hand and automatic opening and closing device, pump, countershaft and wrenches; seven sets of case dies, one set each $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$ and 1 inch; seven nut taps of same sizes as dies, and one adjustable tap chuck and stop die. Price . . . . $

NO. 3.

Threads and Taps from $\frac{3}{8}$ to $1\frac{1}{4}$ inch, right or left hand thread. Machine complete with open die head, combined hand and automatic opening and closing device, pump, countershaft and wrenches; eight sets of case dies, one set each $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$ and $1\frac{1}{4}$ inch; eight nut taps of same sizes as dies, and one adjustable tap chuck and stop die. Price . . . . $

NO. 4.

Threads and Taps from $\frac{3}{8}$ to $1\frac{1}{2}$ inch, right or left hand thread. Machine complete with open die head, combined hand and automatic opening and closing device, pump, countershaft and wrenches; nine sets of case dies, one set each $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$ and $1\frac{1}{2}$ inch; nine nut taps of same sizes as dies, and one adjustable tap chuck and stop die. Price . . . . $

NO. 5.

Threads and Taps from $\frac{1}{2}$ to 2 inch, right or left hand thread. Machine complete with open die head, combined hand and automatic opening and closing device, pump, countershaft and wrenches; eleven sets of case dies, one set each $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, $1\frac{3}{4}$ and 2 inch; eleven nut taps of same sizes as dies, and one adjustable tap chuck and stop die. Price . . . . $

DOUBLE HEAD BOLT CUTTERS.

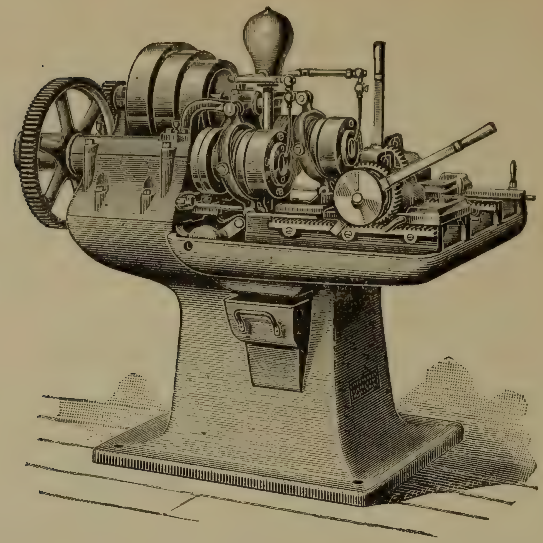


Fig. 1979.

NO. 1.

Threads and Taps from $\frac{3}{16}$ to $\frac{3}{4}$ inch, right or left hand thread.

Machine complete with two open die heads, combined hand and automatic opening and closing device, pump, countershaft and wrenches, and 12 sets of case dies, two sets each $\frac{3}{16}$, $\frac{1}{4}$, $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$ and $\frac{3}{4}$ inch. Price . . $

NO. 2.

Threads and Taps from $\frac{3}{8}$ to 1 inch, right or left hand thread.

Machine complete with two open die heads, combined hand and automatic opening and closing device, pump, countershaft and wrenches, and 12 sets of case dies, two sets each $\frac{3}{8}$, $\frac{7}{16}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$ and one set each $\frac{7}{8}$ and 1 inch. Price . . $

NO. 3.

Threads and Taps from $\frac{3}{8}$ to $1\frac{1}{4}$ inch, right or left hand thread.

Machine complete with two open die heads, combined hand and automatic opening and closing device, pump, countershaft and wrenches, and 13 sets of case dies, two sets each $\frac{3}{8}$, $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, and one set each 1, $1\frac{1}{8}$ and $1\frac{1}{4}$ inch. Price . . $

NO. 4.

Threads and Taps from $\frac{1}{2}$ to $1\frac{1}{2}$ inch, right or left hand thread.

Machine complete with two open die heads, combined hand and automatic opening and closing device, pump, countershaft and wrenches, and 14 sets of case dies, two sets each $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1 and 1 set each $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$ and $1\frac{1}{2}$ inch. Price . . $

NO. 5.

Threads and Taps from $\frac{1}{2}$ to 2 inch, right or left hand thread.

Machine complete with two open die heads, combined hand and automatic opening and closing device, pump, countershaft and wrenches and 20 sets of case dies, two sets each $\frac{1}{2}$, $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{8}$, 1, $1\frac{1}{8}$, $1\frac{1}{4}$, $1\frac{3}{8}$, $1\frac{1}{2}$, and one set each $1\frac{3}{4}$ and 2 inch.

Price . . $

THE FORBES' PATENT DIE STOCKS

FOR HAND POWER.

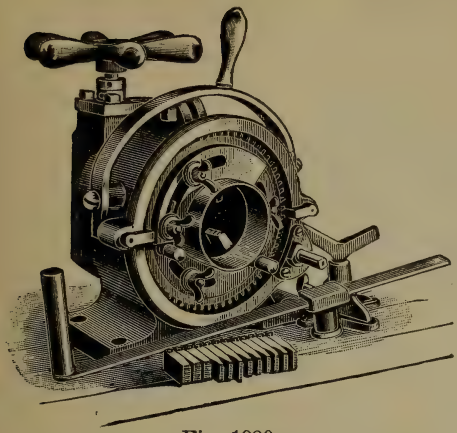


Fig. 1980.

No. 30. HAND MACHINE.

Range, ¼ to 2 inch, R. and L.

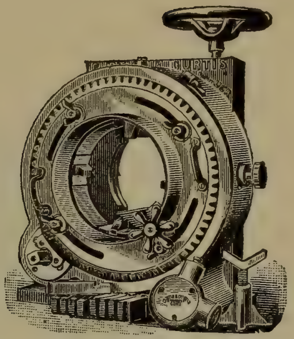


Fig. 1981.

No. 56. HAND MACHINE.

Range, 2½ to 6 inch, R. H.

NET PRICE LIST FOR HAND MACHINES.

Number.	Range.	Weight, Net.	Weight, Gross.	Price.
*30	¼ to 2 inch, both Right and Left.	138 lbs.	178 lbs.	$50.00
*32	¼ to 2 inch, for Solid Dies (without dies).	130 "	170 "	45.00
*34	1 to 3 inch R. H., 1 to 2 inch L. H.	155 "	195 "	75.00
*36	¾ to 3 inch, R. H., ¾ to 2 inch L. H.	160 "	200 "	85.00
*37	¼ to 3 inches, R. and L.	160 "	200 "	105.00
†46	2½ to 4 " R. H.	220 "	270 "	85.00
*38	1½ to 4 " R. H.	222 "	272 "	100.00
*40	1½ to 4 " R. and L.	225 "	275 "	115.00
*42	1 to 4 " R. H.	223 "	273 "	110.00
*44	1 to 4 " R. and L.	235 "	285 "	130.00
†50	4 to 6 " R. H.	298 "	376 "	115.00
†52	3½ to 6 " R. H.	298 "	376 "	130.00
†54	2½ to 5 " R. H.	300 "	378 "	150.00
†56	2½ to 6 " R. H.	303 "	381 "	175.00
†62	2½ to 6 " R. H. (extra heavy).	750 "	885 "	300.00
*58	1 to 6 " R. H.	330 "	408 "	190.00
*60	1 to 6 " R. and L.	348 "	426 "	235.00
*63	2½ to 8 " R. and L.	625 "	750 "	360.00
†64	2½ to 8 " R. H.	600 "	725 "	325.00
†66	2½ to 10 " R. H.	750 "	880 "	500.00
*67	2½ to 10 " R. H.	760 "	890 "	500.00
*68	2½ to 10 " R. and L.	800 "	950 "	550.00

* Pressure feed machine. † Lead screw machine.

Nos. 30 to 37 have no cut-off attachment.

THE CURTIS NIPPLE HOLDER.

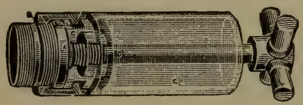


Fig. 1982.

A single revolution of the hand wheel allows the nipple to be unscrewed by the fingers.

Number.	Range.	Weight.	Price.
1	¼ inch to 2 inch, R. and L.	35 lbs.	$14.00
1½	1 " to 3 " R. and L.	65 "	18.00
2	1 " to 4 " R. and L.	150 "	40.00
3	1 " to 6 " R. and L.	190 "	60.00

THE FORBES' PATENT DIE STOCK.

AS ARRANGED FOR EITHER HAND OR POWER USE.

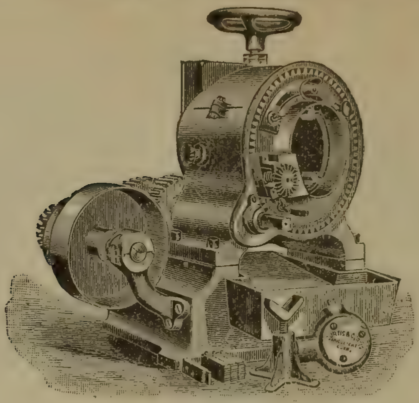


Fig. 1983.

No. 78. HAND OR POWER MACHINE.

Range, 2½ to 4 inch, R. H.

The machine is an adaptation of hand machine, already described, for either hand or power use. It consists of the regular hand machine supplied with a power base, elongated pinion, countershaft, etc., and the machine can either be worked as a power machine or taken from the base and carried out on outside work as a hand machine.

We also can furnish a stand when desired for either hand or power machines, to stand on the floor, for which we charge $10 extra.

NET PRICE LIST FOR HAND OR POWER MACHINES.

Number.	Range.	Weight, Net.	Weight, Gross.	Price.
*70	¼ to 2 inch, R. and L.	320 lbs.	430 lbs.	$100.00
*72	¼ to 2 inch, for Solid Dies (without dies).	315 "	425 "	95.00
*74	1 to 3 inch R. H., 1 to 2 inch L. H.	340 "	459 "	125.00
*76	¾ to 3 inch, R. H., ¾ to 2 inch L. H.	343 "	462 "	135.00
*77	¼ to 3 inches, R. and L.	348 "	467 "	155.00
†78	2½ to 4 " R. H.	515 "	652 "	140.00
*80	1½ to 4 " R. H.	516 "	653 "	150.00
*82	1½ to 4 " R. and L.	517 "	654 "	165.00
*84	1 to 4 " R. H.	516 "	653 "	160.00
*86	1 to 4 " R. and L.	527 "	664 "	180.00
†88	4 to 6 " R. H.	635 "	813 "	170.00
†90	3½ to 6 " R. H.	640 "	818 "	180.00
†92	2½ to 5 " R. H.	640 "	818 "	200.00
†94	2½ to 6 " R. H.	645 "	823 "	225.00
*96	1 to 6 " R. H.	665 "	843 "	250.00
*98	1 to 6 " R. and L.	675 "	853 "	285.00
*99	2½ to 8 " R. and L.	1130 "	1215 "	535.00
†100	2½ to 8 " R. H.	1108 "	1193 "	500.00
†102	2½ to 10 " R. H.	1510 "	1600 "	700.00
*104	2½ to 10 " R. H.	1520 "	1600 "	700.00
*106	2½ to 10 " R. and L.	1560 "	1650 "	750.00

* Pressure feed machine. † Lead screw machine.

These prices include countershaft, ratchet wrench and pipe rest.

Nos. 70 to 77 have no cut-off attachment.

PRICE LIST OF FINISHED SHAFTING.

CUT TO LENGTH FROM 1 FOOT TO 24 FEET, INCLUSIVE.

Diameter.	Weight Per Ft.	Per Lb. Cents.	Diameter.	Weight Per Ft.	Per Lb. Cents.	Diameter.	Weight Per Ft	Per Lb Cents.
1/4	.167	10	1 5/8	7.04	5	3	24.06	5
5/16	.260	8½	1 11/16	7.60		3 1/16	24.58	5¼
3/8	.370	7	1 3/4	8.16		3 1/8	26.10	
7/16	.510		1 13/16	8.78		3 3/16	27.16	
1/2	.666		1 7/8	9.40		3 1/4	28.24	
9/16	.843	6	1 15/16	10.00		3 5/16	29.40	
5/8	1.05		2	10.65		3 3/8	30.43	
11/16	1.25		2 1/16	11.15		3 7/16	31.50	
3/4	1.50	5½	2 1/8	12.07		3 1/2	32.64	5½
13/16	1.76		2 3/16	12.80		3 9/16	33.84	
7/8	2.03		2 1/4	13.50		3 5/8	35.20	
15/16	2.34		2 5/16	14.00		3 11/16	36.40	
1	2.64		2 3/8	15.07		3 3/4	37.45	
1 1/16	3.00		2 7/16	15.83		3 7/8	39.85	
1 1/8	3.33		2 1/2	16.68		3 15/16	41.04	
1 3/16	3.74		2 9/16	17.55		4	42.50	6
1 1/4	4.16		2 5/8	18.32		4 1/4	48 26	
1 5/16	4.61		2 11/16	19.31		4 7/16	52.62	
1 3/8	5.05		2 3/4	20.18		4 1/2	54.11	6½
1 7/16	5.50		2 13/16	21.15		4 3/4	60.88	
1 1/2	6.00	5	2 7/8	22.10		4 15/16	65.50	
1 9/16	6.52		2 15/16	22.96		5	67.50	7

All Shafts larger than 4 inch are turned and polished.

EXTRAS FOR CUTTING LONG AND SHORT LENGTHS.

For Shafts 6 inches to 11¾ inches long, ½c. per lb. net extra.

For Shafts 3 inches to 5¾ inches long, 1c. per lb. net extra.

For Shafts shorter than 3 inches, special price quoted upon application.

For Shafts over 24 feet and less than 30 feet, ½c. per lb. net extra.

For Shafts 30 feet and less than 35, 1c. per lb. net extra.

For Shafts 35 feet and longer, special price quoted upon application.

LARGE TURNED SHAFTS.

We are prepared to furnish Turned Shafting all sizes up to 37 feet in length. Prices quoted upon application.

KEYSEATING OF SHAFTING.

Location of pulley and other special keyseats should be plainly shown by sketch, and orders should designate which Shafts are to be keyseated upon both ends for couplings and which upon one end only.

DIMENSIONS OF STANDARD KEYSEATS.

Diam. of Shaft. Inches.	Keyseat.		Diam. of Shaft. Inches.	Keyseat.		Diam. of Shaft. Inches.	Keyseat.	
	Width. Inches.	Depth Inches.		Width. Inches.	Depth. Inches.		Width. Inches.	Depth. Inches.
15/16 to 1 1/8	1/4	1/8	3 3/8 to 3 13/16	7/8	7/16	9 to 10 9/16	1 1/2	3/4
1 3/16 to 1 5/16	5/16	5/32	3 7/8 to 5 3/16	1	1/2	10 1/4 to 11 7/16	1 5/8	13/16
1 3/8 to 1 13/16	3/8	3/16	5 1/4 to 6 7/16	1 1/8	9/16	11 1/2 to 12 11/16	1 3/4	7/8
1 7/8 to 2 5/16	1/2	1/4	6 1/2 to 7 11/16	1 1/4	5/8	12 3/4 to 13 15/16	1 7/8	15/16
2 3/8 to 2 13/16	5/8	5/16	7 3/4 to 8 15/16	1 3/8	11/16	14 to 14 15/16	2	1
2 7/8 to 3 5/16	3/4	3/8						

COMPRESSED COUPLING.

KEYSEATED AND FURNISHED WITH KEY.

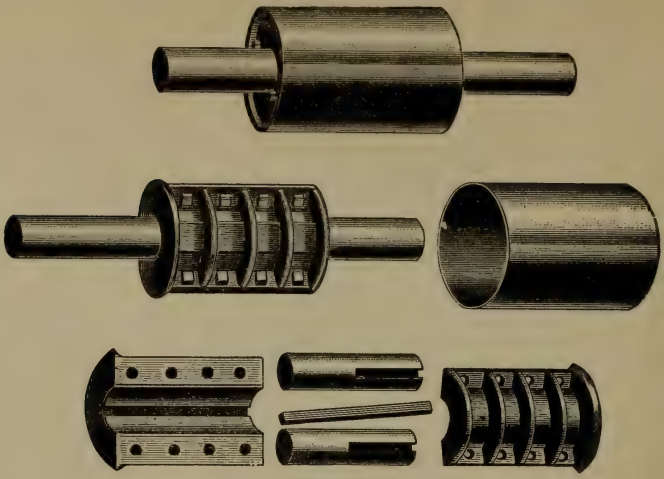


Fig. 1984.

STRONG, SIMPLE AND RELIABLE.

These Couplings can be very easily and quickly applied to shafts or removed therefrom, and are shipped *fitted ready for use.*

DIMENSIONS.

Number of Coupling.	Diameter of Shaft.	Diameter of Coupling.	Length of Coupling.	Length of Key.	BOLTS	
					No.	Size.
1	$\frac{15}{16}$ to $1\frac{1}{8}$	$4\frac{3}{8}$	$5\frac{1}{8}$	$4\frac{1}{2}$	4	$\frac{1}{2}$
2	$1\frac{3}{16}$ to $1\frac{5}{16}$	$4\frac{5}{8}$	$5\frac{7}{8}$	$5\frac{1}{4}$	4	$\frac{1}{2}$
3	$1\frac{3}{8}$ to $1\frac{9}{16}$	$5\frac{3}{8}$	$7\frac{1}{8}$	$6\frac{1}{4}$	4	$\frac{1}{2}$
4	$1\frac{5}{8}$ to $1\frac{13}{16}$	$5\frac{7}{8}$	8	$7\frac{3}{8}$	4	$\frac{1}{2}$
5	$1\frac{7}{8}$ to $2\frac{1}{16}$	6	$8\frac{3}{8}$	$7\frac{1}{2}$	4	$\frac{5}{8}$
6	$2\frac{1}{8}$ to $2\frac{5}{16}$	6	$9\frac{5}{8}$	9	8	$\frac{1}{2}$
7	$2\frac{3}{8}$ to $2\frac{9}{16}$	7	$10\frac{1}{4}$	$9\frac{1}{2}$	8	$\frac{1}{2}$
8	$2\frac{5}{8}$ to $2\frac{13}{16}$	$7\frac{3}{8}$	$11\frac{7}{8}$	11	8	$\frac{5}{8}$
9	$2\frac{7}{8}$ to $3\frac{1}{16}$	8	$12\frac{1}{2}$	$11\frac{3}{8}$	8	$\frac{5}{8}$
10	$3\frac{1}{8}$ to $3\frac{5}{16}$	$8\frac{7}{8}$	$12\frac{7}{8}$	12	8	$\frac{3}{4}$
11	$3\frac{3}{8}$ to $3\frac{9}{16}$	9	$12\frac{7}{8}$	12	8	$\frac{3}{4}$
12	$3\frac{5}{8}$ to $3\frac{13}{16}$	$9\frac{1}{2}$	$13\frac{3}{4}$	$13\frac{1}{4}$	8	$\frac{3}{4}$
13	$3\frac{7}{8}$ to $4\frac{1}{16}$	$9\frac{1}{2}$	15	14	8	$\frac{3}{4}$
14	$4\frac{1}{8}$ to $4\frac{5}{16}$	11	16	$15\frac{1}{4}$	8	$\frac{3}{4}$
15	$4\frac{3}{8}$ to $4\frac{9}{16}$	$11\frac{1}{8}$	$16\frac{7}{8}$	16	8	$\frac{7}{8}$
16	$4\frac{5}{8}$ to $4\frac{13}{16}$	$13\frac{1}{4}$	$17\frac{3}{4}$	17	8	$\frac{7}{8}$
17	$4\frac{7}{8}$ to $5\frac{1}{16}$	$13\frac{3}{4}$	$18\frac{3}{4}$	18	8	$\frac{7}{8}$

PRICE LIST.

Diameter of Shaft.	Price.	Diameter of Shaft.	Price.	Diameter of Shaft.	Price.
$\frac{15}{16}$	$5.00	$2\frac{7}{16}$	$10.75	$4\frac{7}{16}$	$42.00
$1\frac{3}{16}$	5.50	$2\frac{11}{16}$	13.00	$4\frac{15}{16}$	53.00
$1\frac{5}{16}$	5.70	$2\frac{15}{16}$	16.50	$5\frac{7}{16}$	65.00
$1\frac{7}{16}$	6.00	$3\frac{3}{16}$	20.00	$5\frac{15}{16}$	78.00
$1\frac{11}{16}$	7.00	$3\frac{7}{16}$	24.00	$6\frac{7}{16}$	90.00
$1\frac{15}{16}$	8.00	$3\frac{11}{16}$	28.00	$6\frac{15}{16}$	112.00
$2\frac{8}{16}$	9.00	$3\frac{15}{16}$	32.00		

FLANGE-FACED OR PLATE COUPLING.

TURNED ALL OVER; KEYSEATED AND FURNISHED WITH KEYS AND BOLTS.

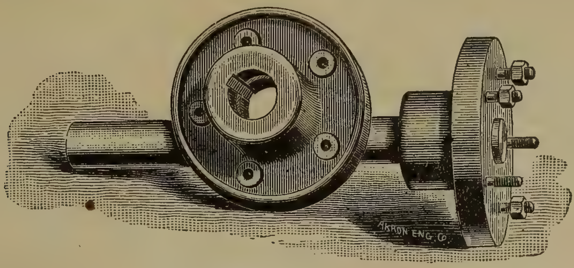

AKRON ENG. CO.

Fig. 1985.

DIMENSIONS.

No. of Coupling.	Diameter of Shafts.	Length of Coupling.	Diameter of Flanges.	No. of Coupling.	Diameter of Shafts.	Length of Coupling.	Diameter of Flanges.
1	$\frac{7}{8}$ to $1\frac{1}{16}$	4	$5\frac{1}{8}$	16	$4\frac{5}{8}$ to $4\frac{13}{16}$	$15\frac{3}{4}$	$14\frac{1}{2}$
2	$1\frac{1}{8}$ to $1\frac{5}{16}$	5	$6\frac{1}{8}$	17	$4\frac{7}{8}$ to $5\frac{1}{16}$	$16\frac{1}{2}$	$14\frac{7}{8}$
3	$1\frac{3}{8}$ to $1\frac{9}{16}$	6	$7\frac{1}{8}$	18	$5\frac{1}{8}$ to $5\frac{5}{16}$	$17\frac{1}{4}$	16
4	$1\frac{5}{8}$ to $1\frac{13}{16}$	$6\frac{3}{4}$	$8\frac{5}{8}$	19	$5\frac{3}{8}$ to $5\frac{9}{16}$	18	$16\frac{3}{8}$
5	$1\frac{7}{8}$ to $2\frac{1}{16}$	$7\frac{1}{2}$	9	20	$5\frac{5}{8}$ to $5\frac{13}{16}$	$18\frac{3}{4}$	$16\frac{3}{4}$
6	$2\frac{1}{8}$ to $2\frac{5}{16}$	$8\frac{1}{4}$	$9\frac{3}{8}$	21	$5\frac{7}{8}$ to $6\frac{1}{16}$	$19\frac{1}{2}$	$17\frac{1}{8}$
7	$2\frac{3}{8}$ to $2\frac{9}{16}$	9	$9\frac{3}{4}$	22	$6\frac{1}{8}$ to $6\frac{5}{16}$	$20\frac{1}{4}$	$17\frac{7}{8}$
8	$2\frac{5}{8}$ to $2\frac{13}{16}$	$9\frac{3}{4}$	$10\frac{5}{8}$	23	$6\frac{3}{8}$ to $6\frac{9}{16}$	21	$18\frac{1}{4}$
9	$2\frac{7}{8}$ to $3\frac{1}{16}$	$10\frac{1}{2}$	11	24	$6\frac{5}{8}$ to $6\frac{13}{16}$	$21\frac{3}{4}$	$18\frac{5}{8}$
10	$3\frac{1}{8}$ to $3\frac{5}{16}$	$11\frac{1}{4}$	$11\frac{7}{8}$	25	$6\frac{7}{8}$ to $7\frac{1}{16}$	$22\frac{1}{2}$	19
11	$3\frac{3}{8}$ to $3\frac{9}{16}$	12	$12\frac{1}{4}$	26	$7\frac{1}{8}$ to $7\frac{5}{16}$	$23\frac{1}{4}$	$19\frac{3}{8}$
12	$3\frac{5}{8}$ to $3\frac{13}{16}$	$12\frac{3}{4}$	$12\frac{5}{8}$	27	$7\frac{3}{8}$ to $7\frac{9}{16}$	24	$19\frac{3}{4}$
13	$3\frac{7}{8}$ to $4\frac{1}{16}$	$13\frac{1}{2}$	13	28	$7\frac{5}{8}$ to $7\frac{13}{16}$	$24\frac{3}{4}$	$20\frac{1}{8}$
14	$4\frac{1}{8}$ to $4\frac{5}{16}$	$14\frac{1}{4}$	$13\frac{3}{4}$	29	$7\frac{7}{8}$ to $8\frac{1}{16}$	$25\frac{1}{2}$	$20\frac{1}{2}$
15	$4\frac{3}{8}$ to $4\frac{9}{16}$	15	$14\frac{1}{8}$	30	$8\frac{1}{8}$ to $8\frac{5}{16}$	$26\frac{1}{4}$	$20\frac{7}{8}$

PRICE PER PAIR.

Diameter of Shaft.	Fitted to Shafts.	Not Fitted to Shafts.	Diameter of Shaft.	Fitted to Shafts.	Not Fitted to Shafts.
$1\frac{3}{16}$	\$7.00	\$4.00	$4\frac{7}{16}$	\$43.25	\$34.25
$1\frac{7}{16}$	8.00	5.00	$4\frac{15}{16}$	54.75	44.25
$1\frac{11}{16}$	8.50	5.50	$5\frac{7}{16}$	67.00	53.50
$1\frac{15}{16}$	9.00	6.00	$5\frac{15}{16}$	81.00	64.00
$2\frac{3}{16}$	10.50	7.00	$6\frac{7}{16}$	95.50	78.50
$2\frac{7}{16}$	12.50	8.50	$6\frac{15}{16}$	110.00	92.00
$2\frac{11}{16}$	15.25	10.75	$7\frac{7}{16}$	126.00	107.50
$2\frac{15}{16}$	18.25	13.25	$7\frac{15}{16}$	142.00	123.00
$3\frac{3}{16}$	21.75	15.25	$8\frac{7}{16}$	160.00	140.50
$3\frac{7}{16}$	25.25	18.25	$8\frac{15}{16}$	180.00	160.00
$3\frac{11}{16}$	29.25	21.25	$9\frac{7}{16}$	200.00	80.00
$3\frac{15}{16}$	33.25	24.75			

REDUCTION FLANGED-FACED COUPLINGS.

When shafts of different diameters are connected with couplings of this kind, price of the pair will be the same as if both shafts were of the larger diameter.

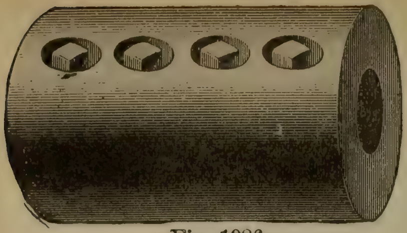


Fig. 1986.

SLEEVE COUPLING.

Diameter of Shaft	$\frac{3}{4}$	1	$1\frac{3}{16}$
Price	$3.00	3.75	4.40

Diameter of Shaft	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{15}{16}$
Price	$5.00	5.60	6.25

SAFETY SET COLLARS.

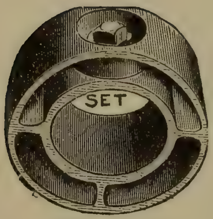


Fig. 1987.

SOLID COLLAR.

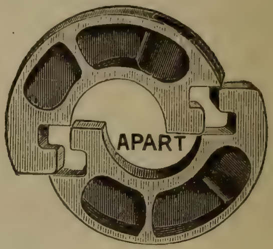


Fig. 1988.

SPLIT COLLAR.

Diameter of Shaft . .	$\frac{15}{16}$	$1\frac{3}{16}$	$1\frac{5}{16}$	$1\frac{7}{16}$	$1\frac{11}{16}$	$1\frac{15}{16}$	$2\frac{3}{16}$	$2\frac{7}{16}$	$2\frac{11}{16}$	$2\frac{15}{16}$
Fig. 1987—Price . . .	$0.70	.80	.90	1.00	1.20	1.40	1.60	1.80	2.10	2.40
Fig. 1988—Price . . .	1.00	1.20	1.35	1.50	1.80	2.10	2.40	2.70	3.15	3.60

Diameter of Shaft . .	$3\frac{3}{16}$	$3\frac{7}{16}$	$3\frac{11}{16}$	$3\frac{15}{16}$	$4\frac{7}{16}$	$4\frac{15}{16}$	$5\frac{7}{16}$	$5\frac{15}{16}$	$6\frac{7}{16}$	$6\frac{15}{16}$
Fig. 1987—Price . . .	$2.70	3.00	3.30	3.60	4.70	5.90	7.20	8.60	10.10	12.70
Fig. 1988—Price . . .	4.00	4.50	4.95	5.40	6.00	7.35	10.80	12.90	15.15	19.00

TIGHT AND LOOSE PULLEYS.

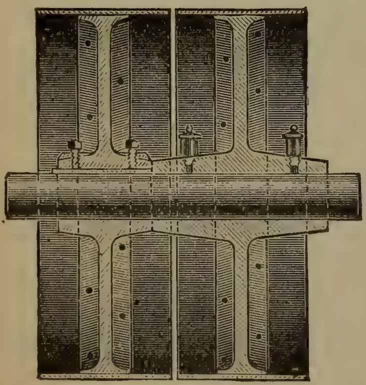


Fig. 1989.

ADDITIONAL PRICES

To be added to list price per pair (given on pages 600 601-602) for *Patent Steel Rim or Cast Iron*

TIGHT AND LOOSE PULLEYS.

Diameter in Inches.	Price.	Diameter in Inches.	Price.
3 to 8	$1.60	25 to 26	$4.75
$8\frac{1}{2}$ to 10	1.95	27 to 28	5.10
$10\frac{1}{2}$ to 12	2.30	29 to 30	5.45
$12\frac{1}{2}$ to 14	2.65	31 to 32	5.80
$14\frac{1}{2}$ to 16	3.00	33 to 34	6.15
$16\frac{1}{2}$ to 18	3.30	35 to 36	6.50
19 to 20	3.70	37 to 40	7.20
21 to 22	4.05	41 to 44	7.90
23 to 24	4.40	45 to 48	8.60

Pulleys designed to drive Tight and Loose Pulleys should be made with flat faces, but Pulleys that are to carry non-shifting belts should be made with crowning faces. When no style of face is specified we usually fill orders with crowning faced Pulleys. Tight and Loose Pulleys are always made with crowning faces.

SPLIT PULLEY.

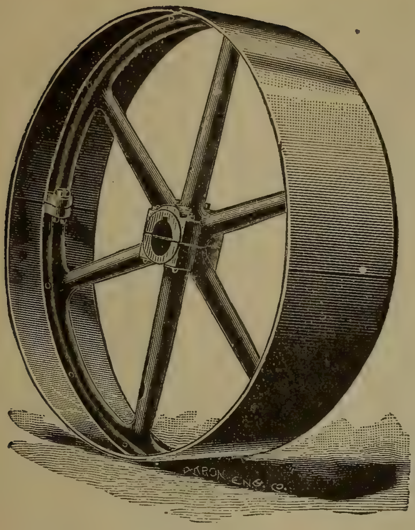

AKRON ENG. CO.

Fig. 1990.

NOTE TABLE BELOW FOR ADDITIONAL PRICES

To be added to list prices (given on pages 600, 601 and 602) for

FINISHED SPLIT PULLEYS.

PATENT STEEL RIM OR CAST IRON.

Diam. in Inches.	Face in Inches.	Price.
6 to 10	Up to 3	$1.30
	above 3 to 6	1.75
	" 6 to 10	2.15
	" 10 to 14	3.10
10½ to 18	Up to 3	1.50
	above 3 to 6	2.20
	" 6 to 10	2.85
	" 10 to 14	4.00
	" 14 to 18	5.25
19 to 23	Up to 4	2.65
	above 4 to 6	3.40
	" 6 to 10	4.05
	" 10 to 14	5.60
	" 14 to 20	7.30
	" 20 to 26	11.00
24 to 30	Up to 4	3.60
	above 4 to 6	4.40
	" 6 to 10	5.40
	" 10 to 14	7.25
	" 14 to 20	10.00
	" 20 to 30	14.00
31 to 36	Up to 4	4 50
	above 4 to 6	5 60
	" 6 to 10	6.75
	" 10 to 14	9.80
	" 14 to 20	13.00
31 to 36	above 20 to 36	$19.00
37 to 47	Up to 4	6.50
	above 4 to 6	7.50
	" 6 to 10	9.90
	" 10 to 14	13.50
	" 14 to 20	18.00
	" 20 to 30	27.00
	" 30 to 40	37.00
48 to 60	Up to 6	10.00
	above 6 to 10	13.00
	" 10 to 14	18.00
	" 14 to 20	25.00
	" 20 to 30	34 50
	" 30 to 40	48.00
	" 40 to 50	63.00
61 to 84	Up to 10	20.00
	above 10 to 14	26.00
	" 14 to 20	35.00
	" 20 to 30	48.00
	" 30 to 40	64 00
	" 40 to 50	82.00
85 to 120	Up to 14	38 00
	above 14 to 20	53.50
	" 20 to 30	70.00
	" 30 to 40	90.00
	" 40 to 50	115.00
	" 50 to 60	150.00

CLAMP HUB PULLEY.

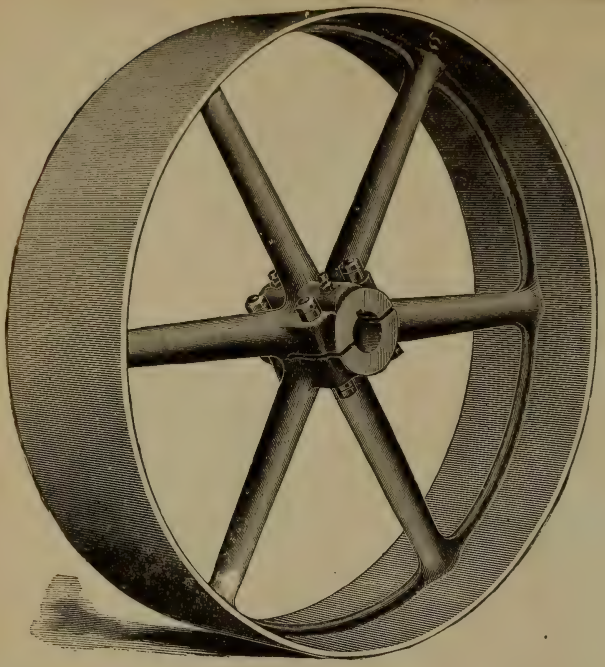


Fig. 1991.

NOTE TABLE BELOW

FOR ADDITIONAL PRICES

To be added to regular list prices (given on pages 600, 601 and 602) in order to obtain list prices for

CLAMP HUB PULLEYS.

PATENT STEEL RIM

OR

CAST IRON.

Diam. in Inches.	Face in Inches.	Price.
6 to 10	Up to 3	$0.80
	above 3 to 6	1.05
	“ 6 to 10	1.30
	“ 10 to 14	1.85
10½ to 18	Up to 3	.90
	above 3 to 6	1 30
	“ 6 to 10	1.70
	“ 10 to 14	2.40
	“ 14 to 18	3.15
19 to 23	Up to 4	1.60
	above 4 to 6	2.05
	“ 6 to 10	2.45
	“ 10 to 14	3.35
	“ 14 to 20	4 40
	“ 20 to 26	6.60
24 to 30	Up to 4	2.15
	above 4 to 6	2.65
	“ 6 to 10	3.25
	“ 10 to 14	4.35
	“ 14 to 20	6.00
	“ 20 to 30	8.40
31 to 36	Up to 4	2.70
	above 4 to 6	3.35
	“ 6 to 10	4.05
	“ 10 to 14	5.90
	“ 14 to 20	7.80
31 to 36	above 20 to 36	$11.40
37 to 47	Up to 4	3.90
	above 4 to 6	4.50
	“ 6 to 10	5.95
	“ 10 to 14	8.10
	“ 14 to 20	10.80
	“ 20 to 30	16.20
	“ 30 to 40	22.20
48 to 60	Up to 6	6.00
	above 6 to 10	7.80
	“ 10 to 14	10.80
	“ 14 to 20	15.00
	“ 20 to 30	20.70
	“ 30 to 40	28.80
	“ 40 to 50	39.00
61 to 84	Up to 10	12.00
	above 10 to 14	15.60
	“ 14 to 20	21.00
	“ 20 to 30	28.80
	“ 30 to 40	38.40
	“ 40 to 50	50.00
85 to 120	Up to 14	22.80
	above 14 to 20	32.10
	“ 20 to 30	42.00
	“ 30 to 40	54.00
	“ 40 to 50	69.00
	“ 50 to 60	88.00

PATENT STEEL RIM PULLEY WITH DOUBLE ARM.

For Prices see Pages 601 and 602.

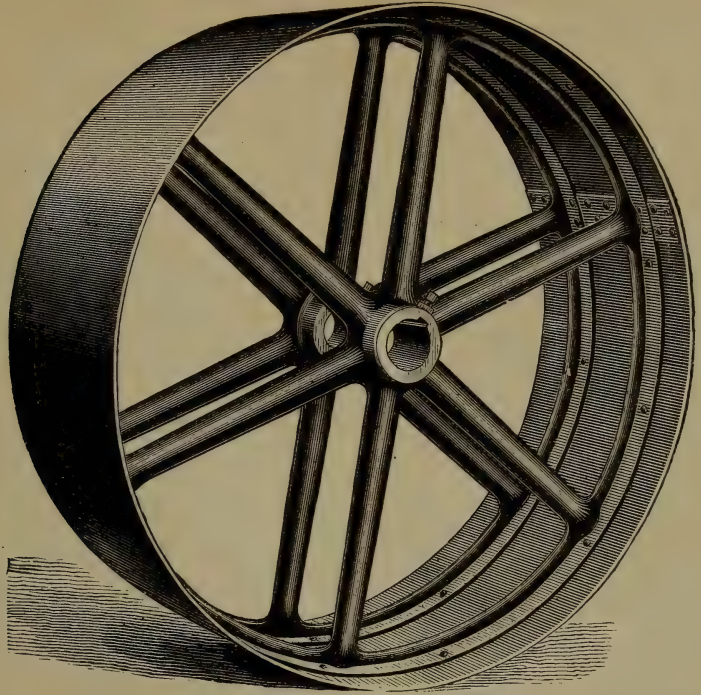


Fig. 1992.

CAST IRON DOUBLE ARM SPLIT PULLEY.

For Prices see Pages 597, 601, 602.

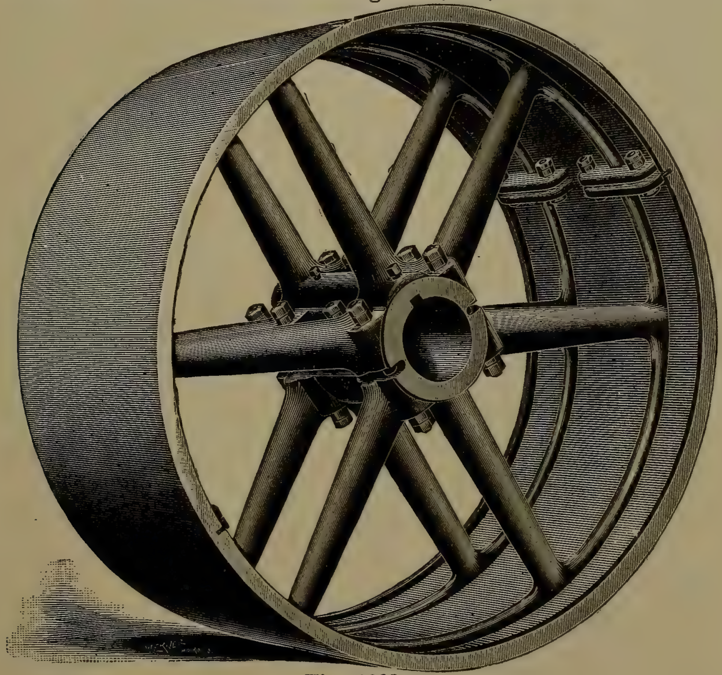


Fig. 1993.

PRICE LIST

OF

MACHINE MOLDED CAST-IRON PULLEYS

AND

PATENT STEEL RIM PULLEYS.

Diam.	Face.	Single Belt.	Double Belt.
3	2	$1.40	. .
	3	1.55	. .
	4	1.70	. .
	5	1.85	. .
	6	2.00	. .
3½	2	1.45	. .
	3	1.60	. .
	4	1.75	. .
	5	1.90	. .
	6	2.05	. .
	7	2.20	. .
4	2	1.50	. .
	3	1.65	. .
	4	1.80	. .
	5	1.95	. .
	6	2.10	. .
	7	2.25	. .
	8	2.40	. .
4½	2	1.50	. .
	3	1.70	. .
	4	1.90	. .
	5	2.10	. .
	6	2.30	. .
	7	2.40	. .
	8	2.60	. .
	9	2.80	. .
5	2	1.55	. .
	3	1.75	. .
	4	1.95	. .
	5	2.15	. .
	6	2.35	. .
	7	2.55	. .
	8	2.75	. .
	9	2.95	. .
	10	3.15	. .
5½	2	1.60	. .
	3	1.80	. .
	4	2.00	. .
	5	2.20	. .
	6	2.40	. .
	7	2.60	. .
	8	2.80	. .
	9	3.00	. .
	10	3.20	. .
	11	3.40	. .
6	3	1.95	$2.55
	4	2.10	2.80
	5	2.30	3.10
	6	2.55	3.45
	7	2.80	3.80
6	8	$3.05	$4.15
	9	3.30	4.50
	10	3.60	4.85
	11	3.90	5.25
	12	4.20	5.65
6½	3	2.05	2.65
	4	2.20	2.90
	5	2.40	3.25
	6	2.65	3.70
	7	2.90	3.95
	8	3.15	4.35
	9	3.45	4.70
	10	3.75	5.05
	11	4.05	5.50
	12	4.35	5.90
7	3	2.10	2.75
	4	2.25	3.00
	5	2.50	3.35
	6	2.75	3.70
	7	3.00	4.05
	8	3.25	4.45
	9	3.55	4.85
	10	3.85	5.25
	11	4.20	5.70
	12	4.50	6.10
7½	3	2.20	2.85
	4	2.35	3.10
	5	2.60	3.45
	6	2.85	3.85
	7	3.10	4.20
	8	3.35	4.60
	9	3.70	5.05
	10	4.00	5.50
	11	4.35	5.95
	12	4.65	6.35
8	3	2.25	2.95
	4	2.45	3.20
	5	2.70	3.55
	6	2.95	3.95
	7	3.20	4.35
	8	3.45	4.75
	9	3.80	5.20
	10	4.15	5.70
	11	4.50	6.15
	12	4.80	6.60
	13	5.20	7.15
	14	5.60	7.75
8½	3	2.35	3.05
	4	2.55	3.35
	5	2.80	3.70
	6	3.05	4.10
8½	7	$3.35	$4.50
	8	3.65	4.95
	9	3.95	5.40
	10	4.30	5.90
	11	4.65	6.40
	12	5.00	6.85
	13	5.35	7.40
	14	5.75	8.05
9	3	2.40	3.15
	4	2.60	3.45
	5	2.85	3.80
	6	3.15	4.25
	7	3.45	4.65
	8	. .	5.10
	9	. .	5.60
	10	. .	6.10
	11	. .	6.60
	12	. .	7.10
	13	. .	7.70
	14	. .	8.30
9½	3	2.50	3.25
	4	2.70	3.60
	5	2.95	3.95
	6	3.30	4.40
	7	3.60	4.85
	8	. .	5.30
	9	. .	5.80
	10	. .	6.30
	11	. .	6.80
	12	. .	7.35
	13	. .	7.95
	14	. .	8.55
10	3	2.55	3.35
	4	2.75	3.70
	5	3.05	4.10
	6	3.40	4.55
	7	3.70	5.00
	8	. .	5.50
	9	. .	6.00
	10	. .	6.55
	11	. .	7.10
	12	. .	7.65
	13	. .	8.25
	14	. .	8.90
12	3	2.85	3.75
	4	3.15	4.20
	5	3.50	4.70
	6	3.85	5.25
	7	4.20	5.80
	8	4.55	6.35
	9	4.95	6.95
	10	. .	7.55
12	11	. .	$8.15
	12	. .	8.75
	13	. .	9.40
	14	. .	10.10
14	3	$3.25	4.20
	4	3.55	4.70
	5	3.90	5.30
	6	4.35	5.95
	7	4.70	6.55
	8	5.20	7.20
	9	5.60	7.90
	10	6.10	8.60
	11	. .	9.30
	12	. .	10.00
	13	. .	10.80
	14	. .	11.60
16	4	3.95	5.30
	6	4.90	6.70
	8	5.85	8.20
	9	6.30	9.00
	10	6.85	9.90
	11	7.40	10.60
	12	8.00	11.45
18	4	4.45	5.95
	5	4.95	6.75
	6	5.50	7.60
	7	6.05	8.45
	8	6.60	9.30
	9	7.15	10.20
	10	7.75	11.10
	11	8.40	12.05
	12	9.10	13.05
	13	. .	14.05
	14	. .	15.10
	15	. .	16.15
	16	. .	17.20
	17	. .	18.30
	18	. .	19.40
20	6	6.20	8.60
	7	6.85	9.60
	8	7.50	10.60
	9	8.15	11.70
	10	8.85	12.80
	11	9.60	13.90
	12	10.40	15.00
	13	11.40	16.20
	14	12.40	17.40
	15	. .	18.60
	16	. .	19.80
	17	. .	21.10
	18	. .	22.40
	19	. .	23.70
	20	. .	25.00

PRICE LIST OF PULLEYS—Continued.

Diam.	Face.	Single Belt.	Double Belt.	Double Arm, Double Belt.
22	8	$8.40	$12.00	. . .
	10	9.95	14.50	. . .
	12	11.70	17.00	. . .
	14	14.05	19.70	. . .
	16	. . .	22.40	. . .
	18	. . .	25.40	. . .
	20	. . .	28.30	$32.55
	22	. . .	. . .	36.25
	24	. . .	. . .	40.00
	26	. . .	. . .	43.85
24	4	6.10	8.15	. . .
	6	7.65	10.65	. . .
	8	9.30	13.40	. . .
	10	11.10	16.20	. . .
	12	13.15	19.00	. . .
	14	15.70	22.00	. . .
	16	. . .	25.10	. . .
	18	. . .	28.40	. . .
	20	. . .	31.70	36.45
	22	. . .	. . .	40.70
	24	. . .	. . .	45.00
	26	. . .	. . .	49.10
	28	. . .	. . .	53.60
	30	. . .	. . .	58.35
26	3	6.00	7.80	. . .
	4	6.90	9.15	. . .
	5	7.65	10.45	. . .
	6	8.60	11.90	. . .
	8	10.55	14.90	. . .
	10	12.60	18.00	. . .
	12	15.00	21.10	. . .
	14	17.65	24.55	. . .
	16	. . .	28.10	. . .
	18	. . .	31.80	. . .
	20	. . .	35.55	40.85
	22	. . .	. . .	45.40
	24	. . .	. . .	50.00
	26	. . .	. . .	54.60
	28	. . .	. . .	59.25
28	3	6.75	8.70	. . .
	4	7.70	10.10	. . .
	5	8.50	11.55	. . .
	6	9.50	13.15	. . .
	8	11.70	16.40	. . .
	10	13.10	19.80	. . .
	12	16.85	23.30	. . .
	14	19.55	27.10	. . .
	16	. . .	31.10	. . .
	18	. . .	35.25	. . .
	20	. . .	39.45	45.35
	22	. . .	. . .	50.30
	24	. . .	. . .	55.10
	26	. . .	. . .	60.00
	28	. . .	. . .	65.00
	30	. . .	. . .	70.05
30	3	$7.60	$9.60	. . .
	4	8.55	11.10	. . .
	5	9.45	12.70	. . .
	6	10.55	14.55	. . .
	8	13.00	18.00	. . .
	10	15.75	21.60	. . .
	12	18.60	25.50	. . .
	14	21.55	29.70	. . .
	16	. . .	34.20	. . .
	18	. . .	38.70	. . .
	20	. . .	43.25	$49.75
	22	. . .	. . .	54.95
	24	. . .	. . .	60.25
	26	. . .	. . .	65.45
	28	. . .	. . .	70.70
	30	. . .	. . .	76.00
32	3	8.45	10.45	. . .
	4	9.40	12.20	. . .
	5	10.45	14.10	. . .
	6	11.65	16.05	. . .
	7	12.95	17.90	. . .
	8	14.40	19.85	. . .
	10	17.40	23.85	. . .
	12	20.55	28.00	. . .
	14	23.70	32.65	. . .
	16	. . .	37.45	. . .
	18	. . .	42.30	. . .
	20	. . .	47.15	54.50
	22	. . .	. . .	59.80
	24	. . .	. . .	65.35
	26	. . .	. . .	70.90
	28	. . .	. . .	76.65
	30	. . .	. . .	82.40
	32	. . .	. . .	88.15
34	3	9.40	11.60	. . .
	4	10 40	13.50	. . .
	5	11.50	15.50	. . .
	6	12.90	17.60	. . .
	7	14.35	19.70	. . .
	8	15.85	21.70	. . .
	10	19.10	26.10	. . .
	12	22.50	30.50	. . .
	14	25.90	35.60	. . .
	16	. . .	40.70	. . .
	18	. . .	45.90	. . .
	20	. . .	51.65	59.40
	22	. . .	. . .	64.60
	24	. . .	. . .	70.50
	26	. . .	. . .	76.45
	28	. . .	. . .	82.55
	30	. . .	. . .	88.70
	32	. . .	. . .	94.90
36	3	10.40	12.75	. . .
	4	11.40	14.75	. . .
	5	12.65	16.95	. . .
	6	14.10	19.20	. . .
36	8	$17.35	$23.10	. . .
	10	20.85	28.30	. . .
	12	24.50	33.10	. . .
	14	28.10	38.55	. . .
	16	. . .	44.05	. . .
	18	. . .	49.55	. . .
	20	. . .	55.05	$64.30
	22	. . .	61.55	69.45
	24	. . .	67.05	75.70
	26	. . .	. . .	82.00
	28	. . .	. . .	88.45
	30	. . .	. . .	94.95
	34	. . .	. . .	108.25
	36	. . .	. . .	115.00
40	4	13.70	17.75	. . .
	5	15.30	20.30	. . .
	6	17.10	22.90	. . .
	8	20.80	28.10	. . .
	10	24.75	33.30	. . .
	12	28.80	38.75	. . .
	14	32.90	44.80	. . .
	16	. . .	50.90	. . .
	18	. . .	57.50	. . .
	20	. . .	63.70	73.25
	22	. . .	69.70	80.15
	24	. . .	75.90	87.30
	26	. . .	. . .	94.55
	28	. . .	. . .	101.90
	30	. . .	. . .	109.10
	32	. . .	. . .	116.60
	34	. . .	. . .	124.00
	36	. . .	. . .	131.35
	38	. . .	. . .	138.80
	40	. . .	. . .	146.20
44	4	16.25	21.00	. . .
	5	18.20	23.90	. . .
	6	20.25	26.85	. . .
	8	24.45	32.70	. . .
	10	28.80	38.65	. . .
	12	33.40	44.90	. . .
	14	37.90	51.60	. . .
	15	. . .	55.05	. . .
	16	. . .	58.50	. . .
	18	. . .	65.50	. . .
	20	. . .	72.50	83.45
	22	. . .	79.50	91.40
	24	. . .	86.65	99.65
	26	. . .	. . .	107.85
	28	. . .	. . .	115.10
	29	. . .	. . .	119.75
	30	. . .	. . .	124.45
	32	. . .	. . .	132.80
	34	. . .	. . .	141.10
	36	. . .	. . .	149.40
	38	. . .	. . .	157.80
	40	. . .	. . .	166.15

PRICE LIST OF PULLEYS—Continued.

Diam.	Face.	Single Belt.	Double Belt.	Double Arm, Double Belt.
48	4	$19.00	$24.50	. . .
	6	23.50	31.00	. . .
	8	28.25	37.65	. . .
	10	33.15	44.45	. . .
	12	38.20	51.50	. . .
	14	43.30	59.00	. . .
	16	. . .	66.70	. . .
	18	. . .	74.50	. . .
	20	. . .	82.30	$94.65
	22	. . .	90.10	103.60
	24	. . .	98.00	112.70
	26	. . .	. . .	121.90
	28	. . .	. . .	131.25
	30	. . .	. . .	140.65
	32	. . .	. . .	150.05
	34	. . .	. . .	159.50
	36	. . .	. . .	168.95
	38	. . .	. . .	178.35
	40	. . .	. . .	187.80
50	5	22.80	29.75	. . .
	6	25.30	33.30	. . .
	8	30.25	40.30	. . .
	10	35.45	47.45	. . .
	12	40.80	54.80	. . .
	14	46.20	62 70	. . .
	16	52.00	70.85	. . .
	18	. . .	79.15	. . .
	20	. . .	87.40	100.50
	22	. . .	95.70	110.50
	24	. . .	104.10	119.90
	26	. . .	. . .	129.50
	30	. . .	. . .	149.40
	36	. . .	. . .	179.50
54	5	26.20	33.95	. . .
	6	28 90	37.90	. . .
	8	34.40	45.70	. . .
	10	40.05	53.60	. . .
	12	46.00	61.50	. . .
	14	52.20	70.25	. . .
	16	58.70	79.25	. . .
	18	. . .	88.50	. . .
	20	. . .	97.70	112.35
	22	. . .	107.00	123.05
	24	. . .	116.50	133.95
	26	. . .	126.00	144.90
	28	. . .	. . .	155.95
	30	. . .	. . .	167.10
	32	. . .	. . .	178.25
	34	. . .	. . .	189.40
	36	. . .	. . .	200.65
	38	. . .	. . .	211.95
	40	. . .	. . .	224.35
	42	. . .	. . .	237.50
	44	. . .	. . .	250.65
60	6	34 80	46.00	. . .
60	8	$40.35	$54.10	. . .
	10	46.85	62.75	. . .
	12	54.20	72.00	. . .
	14	61.80	82.55	. . .
	16	69.60	92.55	. . .
	18	. . .	103.50	. . .
	20	. . .	114.45	$131.60
	22	. . .	125.45	144.25
	24	. . .	136.50	157.00
	26	. . .	147.65	169.80
	28	. . .	. . .	182.60
	30	. . .	. . .	195.40
	36	. . .	. . .	233.80
	40	. . .	. . .	259.40
	44	. . .	. . .	285.25
	48	. . .	. . .	311.45
72	16	93.70	122.75	. . .
	18	104.00	136.50	. . .
	20	. . .	150.60	173.20
	22	. . .	165.00	189.75
	24	. . .	179.50	207.40
	25	. . .	186.6	215.15
	26	. . .	193.85	222.90
	28	. . .	208.20	239.45
	30	. . .	222.60	256.00
	32	. . .	. . .	272.55
	34	. . .	. . .	289.10
	36	. . .	. . .	305.65
	38	. . .	. . .	322.25
	40	. . .	. . .	338.80
	42	. . .	. . .	355.35
	44	. . .	. . .	371.90
	46	. . .	. . .	388.45
	48	. . .	. . .	405.00
	50	. . .	. . .	421.55
84	8	73.65	93.25	. . .
	10	84.65	107.85	. . .
	12	96.00	123.00	. . .
	14	108.35	139.60	. . .
	16	121.00	156.40	. . .
	18	134.00	173.50	. . .
	20	. . .	190.75	219.35
	22	. . .	208.10	239.30
	24	. . .	225.50	259.30
	26	. . .	243.05	279.50
	28	. . .	260 65	299.75
	30	. . .	278.30	320.05
	34	. . .	. . .	360.75
	36	. . .	. . .	381.10
	38	. . .	. . .	402.65
	40	. . .	. . .	423.60
96	12	. . .	153.00	. . .
	14	. . .	172.10	. . .
	16	. . .	191.75	. . .
	18	. . .	212.50	. . .
96	20	. . .	$233.00	$267.95
	24	. . .	276.00	317.40
	26	. . .	297.00	341.55
	28	. . .	318.00	365.70
	30	. . .	339.50	390.45
	36	. . .	. . .	464.15
	40	. . .	. . .	513.15
108	10	. . .	165 35	. . .
	12	. . .	187.00	. . .
	14	. . .	209.50	. . .
	16	. . .	232.50	. . .
	18	. . .	256.00	. . .
	20	. . .	280.20	322.25
	22	. . .	304 55	350.25
	24	. . .	329.00	378.35
	28	. . .	377.80	434.45
	30	. . .	402.35	462.70
	36	. . .	. . .	547.65
	48	. . .	. . .	717.90
112	14	. . .	222.10	. . .
	16	. . .	245.80	. . .
	20	. . .	295.40	339.75
	24	. . .	347.00	399.05
	30	. . .	424.30	487.90
	36	. . .	502.20	577.55
116	12	. . .	210.30	. . .
	14	. . .	234.30	. . .
	16	. . .	258.85	. . .
	18	. . .	284.00	. . .
	20	. . .	310.60	357.25
	24	. . .	364.80	419.55
	26	. . .	391.80	450.85
	28	. . .	418.85	481 70
	30	. . .	446.05	512.95
	34	. . .	500.50	575.70
	36	. . .	527.70	606.90
	40	. . .	. . .	669.45
	42	. . .	. . .	700.75
	48	. . .	. . .	795.00
120	14	. . .	246.10	. . .
	16	. . .	271.75	. . .
	18	. . .	298.00	. . .
	20	. . .	325.90	374.80
	24	. . .	382.50	439.90
	26	. . .	410.80	473.40
	28	. . .	439.20	505.10
	30	. . .	467.60	537.75
	32	. . .	496.00	570.40
	34	. . .	524.40	603.10
	36	. . .	552.80	635.70
	40	. . .	. . .	701.00
	42	. . .	. . .	733.65
	48	. . .	. . .	831.90
	50	. . .	. . .	864.75
	60	. . .	. . .	1029.75

THE DODGE WOOD SPLIT PULLEY.

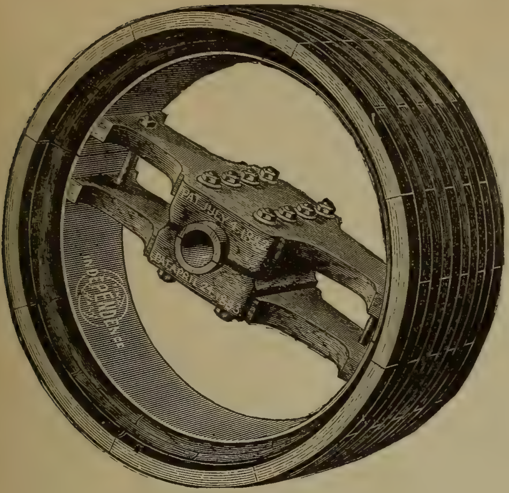


Fig. 1994.

For Price List, see Page 604.

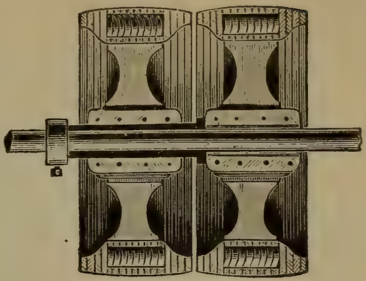


Fig. 1995.

TIGHT AND LOOSE PULLEYS.

The Loose Pulley is furnished with an Iron Sleeve, accurately bored and fitted with oil chambers, or any style of grease or oil cups desired.

PRICE LIST OF EXTRA BUSHINGS.

Length.	Outside Diameter in Inches.	Price.	Outside Diameter in Inches	Price.	Outside Diameter in Inches.	Price.	Outside Diameter in Inches.	Price.	Outside Diameter in Inches.	Price.
6	2 and $2\frac{7}{16}$	$0.30	3	$0.30	$3\frac{1}{2}$	$0.30	4	$0.36	$4\frac{1}{2}$	$0.42
8	2 “ $2\frac{7}{16}$	.40	3	.40	$3\frac{1}{2}$	.40	4	.48	$4\frac{1}{2}$	.56
10	2 “ $2\frac{7}{16}$	.50	3	.50	$3\frac{1}{2}$	.50	4	.60	$4\frac{1}{2}$	.70
12	2 “ $2\frac{7}{16}$	.60	3	.60	$3\frac{1}{2}$	.60	4	.72	$4\frac{1}{2}$	.84
14	2 “ $2\frac{7}{16}$	.70	3	.70	$3\frac{1}{2}$	.70	4	.84	$4\frac{1}{2}$	.98
16	2 “ $2\frac{7}{16}$	.80	3	.80	$3\frac{1}{2}$	.80	4	.96	$4\frac{1}{2}$	1.12
18	2 “ $2\frac{7}{16}$	.90	3	.90	$3\frac{1}{2}$	.90	4	1.08	$4\frac{1}{2}$	1.26
20	2 “ $2\frac{7}{16}$	1.00	3	1.00	$3\frac{1}{2}$	1.00	4	1.20	$4\frac{1}{2}$	1.40

Subject to same discount as pulleys. Net prices will be quoted on application for bushings of larger dimensions.

One bushing is furnished for each standard bored pulley, without extra charge.

TIGHT AND LOOSE PULLEYS.

Fig. 1995.

No extra charge will be made for the pulleys, but loose iron sleeves will be charged as per list below, same being subject to same discount as pulleys with which they are sold. For price list, see page 604.

Face of Pulley in Inches.	Bore.	Price.	Face of Pulley in Inches.	Bore.	Price
3	$1\frac{3}{16}$	$1.85	5	$1\frac{15}{16}$	$3.20
3	$1\frac{7}{16}$	2.00	5	$2\frac{3}{16}$	3.50
3	$1\frac{11}{16}$	2.20	6	$1\frac{7}{16}$	3.00
3	$1\frac{15}{16}$	2.35	6	$1\frac{11}{16}$	3.35
4	$1\frac{3}{16}$	2.20	6	$1\frac{15}{16}$	3.70
4	$1\frac{7}{16}$	2.35	6	$2\frac{3}{16}$	4.15
4	$1\frac{11}{16}$	2.50	8	$1\frac{7}{16}$	3.85
4	$1\frac{15}{16}$	2.70	8	$1\frac{11}{16}$	4.15
5	$1\frac{3}{16}$	2.50	8	$1\frac{15}{16}$	4.70
5	$1\frac{7}{16}$	2.70	8	$2\frac{3}{16}$	5.35
5	$1\frac{11}{16}$	2.85			

THE DODGE WOOD PULLEY.

PRICE LIST.

WIDTH OF FACE IN INCHES.

DIAMETER IN INCHES.	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
3	1.90	2.00	2.10	2.25	2.40	2.60	2.85	3.10	3.35	3.60	3.85	4.10	4.40	4.75								
4	2.00	2.10	2.20	2.40	2.60	2.85	3.10	3.35	3.60	3.85	4.10	4.40	4.75	5.10								
5	2.10	2.20	2.40	2.60	2.85	3.10	3.35	3.60	3.85	4.10	4.40	4.75	5.10	5.45								
6	2.20	2.35	2.55	2.75	3.00	3.25	3.50	3.75	4.00	4.30	4.65	5.00	5.35	5.70								
7	2.30	2.45	2.65	2.85	3.10	3.35	3.60	3.85	4.15	4.50	4.85	5.20	5.55	5.90								
8	2.45	2.60	2.80	3.00	3.25	3.50	3.75	4.00	4.30	4.65	5.00	5.40	5.80	6.20								
9	2.60	2.80	3.00	3.25	3.50	3.75	4.00	4.30	4.65	5.00	5.40	5.80	6.20	6.60								
10	2.80	3.00	3.25	3.50	3.75	4.00	4.30	4.65	5.00	5.40	5.80	6.20	6.60	7.00								
11	3.00	3.25	3.50	3.75	4.00	4.30	4.65	5.00	5.40	5.80	6.20	6.60	7.00	7.50								
12	3.15	3.40	3.65	3.90	4.20	4.55	4.90	5.30	5.70	6.10	6.50	6.90	7.40	7.90	8.50	9.10	9.70	10.40	11.10	11.80	12.60	13.40
13	3.30	3.55	3.80	4.10	4.45	4.80	5.20	5.60	6.00	6.40	6.80	7.30	7.80	8.40	9.00	9.60	10.30	11.00	11.70	12.50	13.30	14.10
14	3.45	3.70	4.00	4.35	4.70	5.10	5.55	6.00	6.45	6.90	7.40	7.90	8.50	9.10	9.70	10.40	11.10	11.80	12.60	13.40	14.20	15.00
15	3.60	3.90	4.25	4.60	5.00	5.45	5.90	6.35	6.80	7.30	7.80	8.40	9.00	9.60	10.30	11.00	11.80	12.60	13.40	14.20	15.10	16.00
16	3.80	4.15	4.50	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00	9.60	10.30	11.00	11.80	12.60	13.40	14.20	15.10	16.00	16.90
17	4.00	4.40	4.90	5.40	5.90	6.40	6.90	7.40	7.90	8.40	8.90	9.50	10.20	11.00	11.80	12.60	13.40	14.20	15.10	16.00	16.90	17.80
18	4.20	4.70	5.20	5.70	6.20	6.70	7.20	7.80	8.40	9.00	9.60	10.30	11.10	11.90	12.70	13.50	14.30	15.20	16.10	17.00	17.90	19.00
19	4.40	4.90	5.40	5.90	6.50	7.10	7.70	8.30	8.90	9.50	10.20	11.00	11.80	12.60	13.40	14.30	15.20	16.10	17.00	17.90	19.00	20.10
20	4.60	5.20	5.80	6.40	7.00	7.60	8.30	9.00	9.70	10.40	11.20	12.00	12.90	13.80	14.70	15.60	16.50	17.50	18.50	19.60	20.70	21.80
21	4.80	5.40	6.00	6.60	7.30	8.00	8.70	9.40	10.20	11.00	11.80	12.70	13.60	14.50	15.50	16.50	17.50	18.60	19.70	20.80	22.00	23.20
22	5.00	5.60	6.30	7.00	7.70	8.40	9.20	10.00	10.80	11.70	12.60	13.50	14.50	15.50	16.60	17.70	18.80	20.00	21.20	22.40	23.60	24.80
23	5.20	5.80	6.50	7.20	8.00	8.80	9.70	10.60	11.50	12.50	13.60	14.70	15.80	17.00	18.20	19.40	20.60	21.80	23.00	24.30	25.60	26.90
24	5.50	6.20	7.00	7.80	8.60	9.40	10.30	11.20	12.10	13.00	14.10	15.30	16.50	17.70	18.90	20.20	21.50	22.80	24.10	25.40	26.80	28.20
25	5.90	6.60	7.30	8.10	9.00	10.00	11.00	12.00	13.00	14.00	15.20	16.40	17.70	19.00	20.40	21.80	23.20	24.60	26.00	27.50	29.00	30.50
26	6.20	7.00	7.80	8.60	9.50	10.50	11.50	12.60	13.75	15.00	16.30	17.60	19.00	20.40	21.80	23.30	24.80	26.30	27.90	29.50	31.10	32.70
27	6.60	7.40	8.20	9.00	10.00	11.10	12.20	13.40	14.60	15.80	17.10	18.50	20.00	21.50	23.00	24.50	26.10	27.70	29.30	30.90	32.50	34.10
28	7.00	7.80	8.60	9.50	10.50	11.60	12.80	14.00	15.20	16.50	17.90	19.40	20.90	22.40	24.00	25.60	27.20	28.80	30.40	32.00	33.60	35.30
29	7.30	8.20	9.10	10.00	11.10	12.30	13.50	14.75	16.00	17.50	19.00	20.50	22.10	23.70	25.30	27.00	28.70	30.40	32.10	33.80	35.50	37.20
30	7.70	8.60	9.50	10.60	11.80	13.00	14.30	15.60	17.00	18.50	20.00	21.50	23.25	25.00	26.75	28.50	30.25	32.00	33.75	35.50	37.25	39.00
31	8.00	9.00	10.00	11.10	12.35	13.60	15.00	16.50	18.00	19.00	21.20	22.80	24.00	26.40	28.20	30.00	31.80	33.60	35.40	37.20	39.00	40.80
32	8.50	9.50	10.50	11.60	12.85	14.10	15.50	17.00	18.60	20.30	22.00	23.80	25.60	27.40	29.20	31.00	33.00	35.00	37.00	39.00	41.00	43.00
33	9.00	10.00	11.15	12.35	13.65	15.00	16.45	18.00	19.65	21.40	23.10	24.95	26.75	28.60	30.40	32.30	34.35	36.40	38.50	40.60	42.70	44.90
34	9.40	10.60	11.80	13.10	14.45	15.90	17.40	19.00	20.70	22.50	24.20	26.10	27.90	29.80	31.70	33.60	35.70	37.80	40.00	42.20	44.40	46.80
35	9.85	11.15	12.45	13.85	15.25	16.80	18.35	20.00	21.70	23.50	25.30	27.20	29.10	31.00	32.90	34.90	37.00	39.20	41.50	43.80	46.10	48.70
36	10.30	11.70	13.10	14.60	16.10	17.70	19.30	21.00	22.00	24.00	26.00	28.00	30.00	32.00	34.00	36.00	38.00	40.00	43.00	45.00	47.00	50.00
38		12.80	14.40	16.00	17.70	19.50	21.20	23.00	24.50	26.00	28.00	30.00	32.00	34.00	36.00	38.00	41.00	43.00	46.00	48.00	51.00	54.00
40		13.90	15.70	17.50	19.30	21.25	23.10	25.00	26.50	28.00	30.00	32.00	34.00	36.00	39.00	41.00	43.00	46.00	49.00	51.00	54.00	58.00
42		15.00	17.00	19.00	21.00	23.00	25.00	27.00	29.00	31.00	33.00	35.00	37.00	39.00	41.00	44.00	46.00	49.00	52.00	55.00	58.00	62.00
44		17.00	19.00	21.00	23.00	25.00	27.00	29.00	31.00	33.00	35.00	37.00	40.00	42.00	44.00	47.00	50.00	53.00	56.00	60.00	63.00	67.00
46		19.00	21.00	23.00	25.00	27.00	29.00	31.00	33.00	36.00	38.00	40.00	43.00	45.00	48.00	51.00	54.00	57.00	61.00	65.00	68.00	73.00
48		21.00	23.00	25.00	27.00	29.00	31.50	33.90	36.20	38.60	40.00	43.00	46.00	48.00	51.00	54.00	58.00	61.00	65.00	70.00	74.00	78.00
50			25.00	27.00	29.00	31.00	33.70	36.20	38.60	41.00	43.00	46.00	49.00	51.00	54.00	58.00	62.00	65.00	70.00	75.00	79.00	84.00
52			28.00	30.00	32.00	34.00	36.00	38.50	41.00	43.50	46.00	49.00	52.00	55.00	58.00	62.00	66.00	70.00	75.00	80.00	85.00	90.00
54			30.00	32.00	34.00	36.00	38.50	41.20	43.80	46.00	49.00	52.00	55.00	59.00	62.00	66.00	70.00	75.00	80.00	85.00	90.00	95.00
56				35.00	37.00	39.00	41.00	43.00	46.00	49.00	52.00	55.00	59.00	63.00	66.00	71.00	75.00	80.00	85.00	90.00	95.00	101.00
58				38.00	40.00	42.00	44.00	46.00	49.00	52.00	55.00	59.00	62.00	67.00	71.00	75.00	80.00	85.00	90.00	95.00	101.05	106.00
60				41.00	43.00	45.00	47.00	49.00	52.00	55.00	58.00	62.00	66.00	71.00	75.00	80.00	85.00	90.00	95.00	100.00	106.00	112.00
66				48.00	50.00	52.00	51.00	57.00	61.00	64.00	69.00	73.00	78.00	83.00	88.00	93.00	98.00	103.00	109.00	115.00	122.00	129.00
72				54.00	56.00	58.00	62.00	66.00	70.00	75.00	80.00	85.00	90.00	95.00	100.00	105.00	111.00	117.00	123.00	130.00	138.00	146.00
78						71.00	75.00	80.00	85.00	90.00	95.00	100.00	105.00	110.00	116.00	121.00	127.00	133.00	140.00	147.00	155.00	164.00
84						85.00	90.00	96.00	101.00	107.00	112.00	118.00	123.00	130.00	136.00	143.00	149.00	156.00	163.00	170.00	179.00	188.00
90						100.00	107.00	114.00	121.00	128.00	135.00	142.00	149.00	157.00	165.00	173.00	181.00	189.00	197.00	206.00	215.00	225.00
96						115.00	123.00	132.00	140.00	149.00	157.00	166.00	174.00	181.00	193.00	203.00	212.00	222.00	231.00	241.00	251.00	262.00
102						130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	211.00	222.00	233.00	241.00	255.00	266.00	277.00	288.00	290.00
108						145.00	155.00	165.00	175.00	185.00	196.00	207.00	218.00	229.00	241.00	253.00	265.00	277.00	279.00	301.00	314.00	326.00
114						160.00	170.00	180.00	191.00	202.00	213.00	224.00	236.00	248.00	260.00	273.00	286.00	[illegible]	313.00	326.00	340.00	353.00
120						175.00	185.00	195.00	206.00	218.00	230.00	242.00	254.00	266.00	276.00	293.00	307.00	322.00	337.00	351.00	366.00	380.00

ADJUSTABLE DOUBLE-BRACED SELF-OILING DROP HANGERS.

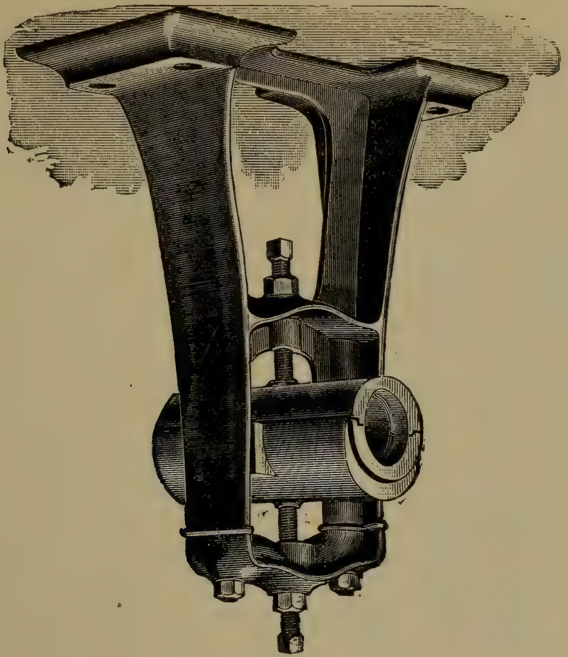


Fig. 1996.

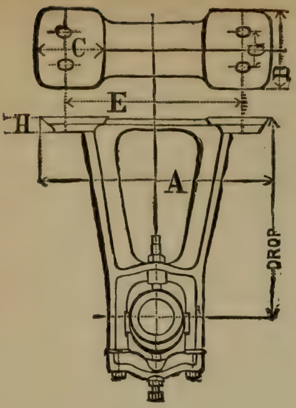
PRICE LIST.

Range of Drop in Inches.		6 to 8	8½ to 10	10½ to 12	12½ to 14	14½ to 16	16½ to 18	18½ to 20	20½ to 22	Length of Bearing, Inches.
Dia. Shaft.	$\frac{15}{16}$	$3.20	$3.65	$4.30	$4.90	$5.35	$5.70	$6.00	$6.10	4
	$1\frac{3}{16}$	3.85	4.30	4.70	5.20	5.60	6.00	6.15	6.25	5
	$1\frac{5}{16}$	4 15	4.60	5.10	5.60	5.90	6.10	6.30	6.50	5
	$1\frac{7}{16}$	4.50	4.95	5.35	5.85	6.25	6.40	6.70	6.90	6
	$1\frac{11}{16}$	5.20	5 60	6.00	6.50	6.90	7.00	7.30	7.50	7

Range of Drop in Inches.		7 to 9	10 to 12	13 to 15	16 to 18	19 to 21	22 to 24	25 to 27	28 to 30	Length of Bearing, Inches.
Diameter of Shafting.	$1\frac{15}{16}$	$6.95	$7.60	$8.25	$8.90	$9.55	$10.20	$10.85	$11.70	8
	$2\frac{3}{16}$	8.45	9.35	10.15	10.80	11.50	12.50	13.40	14.25	9
	$2\frac{7}{16}$	10.55	11.20	12.00	13.00	14.00	15.10	16.10	17.85	10
	$2\frac{11}{16}$	13.15	13.80	15.35	16.00	16.90	18 30	20.15	22.75	11
	$2\frac{15}{16}$	15.60	16.75	18.05	19.25	20.15	21.80	23.40	26.30	12
	$3\frac{3}{16}$	17.00	19.80	21.20	22.40	23.40	25.35	26.95	29.90	13
	$3\frac{7}{16}$	. .	25.35	27.30	28.90	30.20	32.50	34.45	37.70	14
	$3\frac{15}{16}$	. .	31.20	33.15	34.80	36.10	38.35	40.95	42.90	16
	$4\frac{7}{16}$	. .	42.25	42.90	43.85	45.50	47.45	50.05	53.30	16
	$4\frac{15}{16}$	. .	46.80	48.75	51.00	53.95	57.85	63.05	68.90	18

Dimensions, except length of Bearings, which are given above, see pages 606-607.

These Hangers are readily convertible into Floor Stands by simply inverting the boxes. Quotations on extra heavy Hangers and on extra long drops furnished on application.



DIMENSIONS OF ADJUSTABLE DOUBLE BRACED DROP HANGERS.

SELF-OILING AND RING-OILING BEARINGS.

Diameter of Shaft and No. of Hanger.	Drop.	A	B	C	E	G	H	BOLTS	
								Size.	No.
	$6\frac{1}{2}$ to 8	12	$4\frac{1}{8}$	$4\frac{1}{8}$	8	..	$\frac{7}{8}$	$\frac{5}{8}$	2
Hanger No. 1	$8\frac{1}{2}$ to 10	$12\frac{5}{8}$	$4\frac{1}{8}$	$4\frac{1}{4}$	$8\frac{5}{8}$	..	1	$\frac{5}{8}$	2
	$10\frac{1}{2}$ to 12	$13\frac{1}{4}$	5	$4\frac{1}{4}$	$9\frac{5}{8}$	..	1	$\frac{5}{8}$	2
$\frac{15}{16}$ to $1\frac{1}{16}$	$12\frac{1}{2}$ to 14	$14\frac{1}{8}$	5	$4\frac{1}{4}$	10	..	1	$\frac{5}{8}$	2
	$14\frac{1}{2}$ to 16	$14\frac{3}{4}$	5	$4\frac{1}{4}$	$10\frac{3}{4}$	..	1	$\frac{5}{8}$	2
$1\frac{1}{8}$–$1\frac{3}{16}$	$16\frac{1}{8}$ to 18	$15\frac{5}{8}$	6	$4\frac{1}{2}$	$11\frac{5}{8}$	..	1	$\frac{5}{8}$	2
$1\frac{1}{4}$–$1\frac{5}{16}$	$18\frac{1}{2}$ to 20	$16\frac{1}{4}$	6	$4\frac{1}{2}$	$12\frac{1}{8}$	..	1	$\frac{5}{8}$	2
	$20\frac{1}{2}$ to 22	17	6	$4\frac{1}{2}$	$13\frac{1}{8}$	..	1	$\frac{5}{8}$	2
	$23\frac{1}{2}$ to 25	$18\frac{1}{8}$	6	$4\frac{1}{2}$	$14\frac{1}{4}$	..	1	$\frac{5}{8}$	2
	$6\frac{1}{2}$ to 8	$13\frac{1}{8}$	4	$4\frac{3}{8}$	$9\frac{1}{8}$	..	1	$\frac{5}{8}$	2
Hanger No. 2	$8\frac{1}{2}$ to 10	$13\frac{7}{8}$	$4\frac{3}{4}$	$4\frac{3}{8}$	$9\frac{7}{8}$	..	1	$\frac{5}{8}$	2
	$10\frac{1}{2}$ to 12	$14\frac{1}{4}$	$4\frac{3}{4}$	$4\frac{3}{8}$	$10\frac{1}{2}$	..	1	$\frac{5}{8}$	2
$1\frac{3}{8}$–$1\frac{7}{16}$	$12\frac{1}{2}$ to 14	15	$4\frac{3}{4}$	$4\frac{1}{2}$	$11\frac{1}{8}$	..	1	$\frac{5}{8}$	2
$1\frac{1}{2}$–$1\frac{9}{16}$	$14\frac{1}{2}$ to 16	$15\frac{3}{4}$	$4\frac{3}{4}$	$4\frac{1}{2}$	12	..	1	$\frac{5}{8}$	2
	$16\frac{1}{2}$ to 18	$16\frac{3}{4}$	$6\frac{1}{2}$	$4\frac{7}{8}$	$12\frac{3}{4}$	..	1	$\frac{5}{8}$	2
$1\frac{5}{8}$–$1\frac{11}{16}$	$18\frac{1}{2}$ to 20	$17\frac{1}{2}$	$6\frac{1}{2}$	5	$13\frac{1}{2}$	..	$1\frac{1}{8}$	$\frac{3}{4}$	2
$1\frac{3}{4}$–$1\frac{13}{16}$	$20\frac{1}{2}$ to 22	$18\frac{1}{4}$	$6\frac{1}{2}$	5	$14\frac{1}{4}$	..	$1\frac{1}{8}$	$\frac{3}{4}$	2
	$22\frac{1}{2}$ to 24	$18\frac{7}{8}$	$6\frac{1}{2}$	5	$14\frac{3}{4}$	..	$1\frac{1}{8}$	$\frac{3}{4}$	2
	$24\frac{1}{2}$ to 26	$19\frac{3}{4}$	$6\frac{1}{2}$	$5\frac{1}{8}$	$15\frac{1}{2}$	..	$1\frac{1}{8}$	$\frac{3}{4}$	2
	$26\frac{1}{2}$ to 28	$30\frac{3}{8}$	$6\frac{1}{2}$	$5\frac{1}{8}$	$16\frac{1}{4}$	..	$1\frac{1}{8}$	$\frac{3}{4}$	2
Hanger No. 3	7 to 9	$15\frac{3}{8}$	$5\frac{1}{2}$	$5\frac{1}{2}$	$10\frac{5}{8}$	..	$1\frac{1}{4}$	$\frac{3}{4}$	2
	10 to 12	$16\frac{1}{4}$	$5\frac{1}{2}$	5	$11\frac{5}{8}$	..	$1\frac{1}{4}$	$\frac{3}{4}$	2
$1\frac{7}{8}$–$1\frac{15}{16}$	13 to 15	$17\frac{1}{2}$	$5\frac{1}{2}$	5	$12\frac{5}{8}$	..	$1\frac{1}{4}$	$\frac{3}{4}$	2
2 –$2\frac{1}{16}$	16 to 18	$18\frac{3}{8}$	$5\frac{1}{2}$	$5\frac{1}{2}$	$13\frac{3}{4}$	..	$1\frac{1}{4}$	$\frac{3}{4}$	2
	19 to 21	$19\frac{3}{4}$	$7\frac{1}{2}$	$5\frac{1}{2}$	$14\frac{5}{8}$	$3\frac{1}{2}$	$1\frac{1}{4}$	$\frac{5}{8}$	4
$2\frac{1}{8}$ $2\frac{3}{16}$	22 to 24	$20\frac{5}{8}$	$7\frac{1}{2}$	$5\frac{1}{2}$	$15\frac{3}{4}$	$3\frac{1}{4}$	$1\frac{1}{4}$	$\frac{5}{8}$	4
$2\frac{1}{4}$–$2\frac{5}{16}$	25 to 27	$21\frac{3}{4}$	$7\frac{5}{8}$	$6\frac{1}{8}$	17	$3\frac{1}{2}$	$1\frac{3}{8}$	$\frac{5}{8}$	4
	28 to 30	$22\frac{3}{4}$	$7\frac{5}{8}$	6	18	$3\frac{1}{2}$	$1\frac{1}{4}$	$\frac{5}{8}$	4
	7 to 9	$16\frac{1}{2}$	5	$4\frac{7}{8}$	$11\frac{3}{4}$	..	$1\frac{3}{8}$	$\frac{3}{4}$	2
Hanger No. 4	10 to 12	18	$6\frac{1}{2}$	$5\frac{1}{2}$	$12\frac{3}{4}$	..	$1\frac{1}{2}$	$\frac{3}{4}$	2
	13 to 15	19	$7\frac{3}{4}$	$5\frac{1}{2}$	$13\frac{3}{4}$	$3\frac{5}{8}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
$2\frac{3}{8}$–$2\frac{7}{16}$	16 to 18	20	9	$5\frac{7}{8}$	$14\frac{3}{4}$	$4\frac{1}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
$2\frac{1}{2}$–$2\frac{9}{16}$	19 to 21	21	9	6	$15\frac{3}{4}$	$4\frac{1}{4}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
	22 to 24	$22\frac{1}{2}$	$9\frac{1}{8}$	$6\frac{3}{4}$	$17\frac{1}{4}$	$4\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
$2\frac{5}{8}$–$2\frac{11}{16}$	25 to 27	$23\frac{1}{2}$	$9\frac{1}{8}$	$6\frac{3}{4}$	$18\frac{1}{4}$	$4\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
$2\frac{3}{4}$–$2\frac{13}{16}$	28 to 30	$24\frac{1}{2}$	$9\frac{1}{8}$	$6\frac{7}{8}$	19	$4\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$	4
	31 to 33	27	$9\frac{1}{2}$	8	$21\frac{5}{8}$	$4\frac{1}{2}$	$1\frac{1}{2}$	$\frac{3}{4}$	4

Length of Self-Oiling Bearings and Price List, see page 605.

DIMENSIONS OF ADJUSTABLE DOUBLE BRACED DROP HANGERS—Continued.

Diameter of Shaft and No. of Hanger.	Drop.	A	B	C	E	G	H	BOLTS	
								Size.	No.
	7 to 9	18¼	5	5	13¼	. .	1⅜	¾	2
Hanger No. 5	10 to 12	18¾	7	5	13⅞	. .	1⅜	¾	2
	13 to 15	20¼	8⅛	6¼	14¾	3⅝	1½	¾	4
$2\frac{7}{8}$–$2\frac{15}{16}$	16 to 18	20¾	9¼	6	15½	4¾	1½	¾	4
3 –$3\frac{1}{16}$	19 to 21	23	9⅝	7¾	17¼	5	1½	¾	4
	22 to 24	24⅛	9⅞	7¾	18¼	5⅛	1½	¾	4
$3\frac{1}{8}$–$3\frac{3}{16}$	25 to 27	25¼	9⅞	6¼	19⅛	5¼	1½	¾	4
$3\frac{1}{4}$–$3\frac{5}{16}$	28 to 30	26¼	10	6½	20½	5⅛	1½	¾	4
	31 to 33	27¼	9¾	7⅝	21½	5⅛	1½	¾	4
	34 to 36	28½	10	7	22⅝	5⅛	1½	¾	4
	7 to 9	19¼	5	6¼	14¼	. .	1½	1	2
Hanger No. 6	10 to 12	20¾	8⅜	6½	14¾	4½	1½	⅞	4
	13 to 15	21¾	8¼	6½	15¾	4½	1½	⅞	4
$3\frac{3}{8}$–$3\frac{7}{16}$	16 to 18	22¾	8¼	6½	17½	4½	1½	⅞	4
$3\frac{1}{2}$–$3\frac{9}{16}$	19 to 21	23¾	8¼	6½	18¾	4⅜	1½	⅞	4
	22 to 24	24¾	8¼	6½	19½	4⅜	1½	⅞	4
$3\frac{5}{8}$–$3\frac{11}{16}$	25 to 27	26⅜	9	6⅝	20¾	4⅜	1½	⅞	4
$3\frac{3}{4}$–$3\frac{13}{16}$	28 to 30	27¼	10	7⅜	21⅝	4¾	1¾	⅞	4
	31 to 33	28⅜	10	7½	22⅝	5	1½	1	4
	34 to 36	29⅜	10	7½	23½	5¼	1½	1	4
	10 to 12	25½	10	8½	16⅞	4⅜	1¾	1	4
Hanger No. 7	13 to 15	26⅝	10⅜	8½	18	4¼	1⅞	1	4
	16 to 18	27½	10⅜	8½	18⅞	4⅜	1⅞	1	4
$3\frac{7}{8}$–$3\frac{15}{16}$	19 to 21	28¾	10⅜	8⅝	20	4¼	1⅞	1	4
4 –$4\frac{1}{16}$	22 to 24	29½	11½	9¾	21⅛	5⅜	1⅞	1	4
	25 to 27	30½	11½	9¾	22⅛	5⅜	1⅞	1	4
$4\frac{1}{8}$-$4\frac{3}{16}$	28 to 30	31⅝	11½	9¾	23⅛	5⅜	2	1	4
$4\frac{1}{4}$–$4\frac{5}{16}$	31 to 33	32¾	11½	9¾	24¼	5⅜	2	1	4
	34 to 36	33¾	11½	9¾	25⅛	5⅜	2	1	4
	10 to 12	27⅜	12½	10¼	18½	5⅝	2⅛	1	4
Hanger No. 8	13 to 15	28⅛	12½	10¼	19	5⅜	2⅛	1	4
	16 to 18	29¼	12½	10¼	20⅛	5⅜	2⅛	1	4
$4\frac{3}{8}$–$4\frac{7}{16}$	19 to 21	30½	12½	10¼	21⅜	5⅜	2⅛	1	4
$4\frac{1}{2}$–$4\frac{9}{16}$	22 to 24	31½	12½	10¼	22⅞	5⅜	2⅛	1	4
	25 to 27	32½	12½	10¼	23⅞	5⅜	2⅛	1	4
$4\frac{5}{8}$–$4\frac{11}{16}$	28 to 30	33¾	12½	10¼	24⅝	5⅜	2⅛	1	4
$4\frac{3}{4}$–$4\frac{13}{16}$	31 to 33	35	12½	10¼	26¼	5⅜	2⅛	1	4
	34 to 36	36	12½	10¼	27⅜	5⅜	2⅛	1	4
Hanger No. 9	13 to 15	30¼	12½	9⅛	20⅞	5⅜	2¼	1	4
	16 to 18	31¼	12½	10½	22½	5⅜	2¼	1	4
$4\frac{7}{8}$–$4\frac{15}{16}$	19 to 21	32½	12½	10½	23½	5⅜	2⅜	1	4
5 –$5\frac{1}{16}$	22 to 24	33⅝	12½	10½	24¾	5⅜	2⅜	1	4
	25 to 27	34⅝	12½	10¾	26	5⅜	2⅜	1	4
$5\frac{1}{8}$–$5\frac{3}{16}$	28 to 30	35⅝	12½	10¾	27	5⅜	2⅜	1	4
$5\frac{1}{4}$–$5\frac{5}{16}$	31 to 33	37	12½	10¾	28	5⅜	2⅜	1	4
	34 to 36	38	12½	10⅝	29½	5⅜	2⅜	1	4

Length of Self-Oiling Bearings, page 605. Price List, see page 605

ADJUSTABLE SELF-OILING POST HANGER.

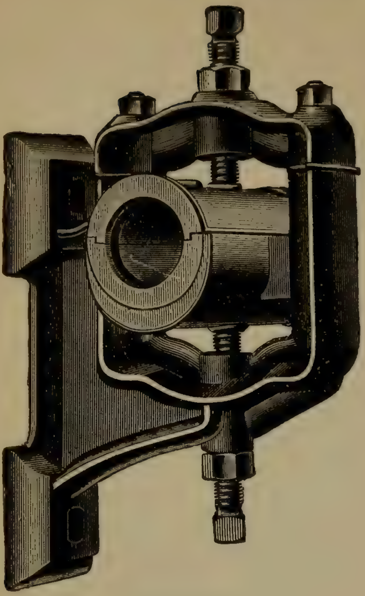


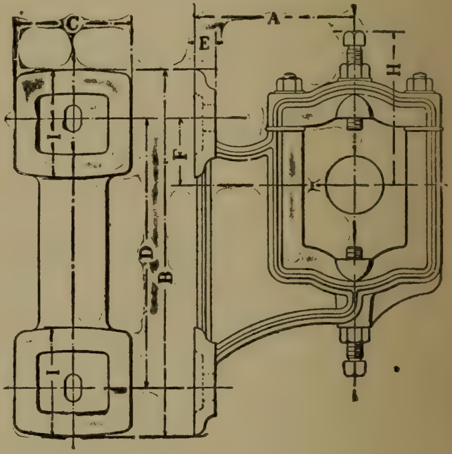
Fig. 1997.

PRICE LIST.

Diameter of Shaft.	Price.	Length of Bearing.	Distance from Foot to Centre.
1 3/16	$3.80	5	4
1 7/16	4.30	6	4 5/8
1 11/16	5.40	7	4 5/8
1 15/16	6.40	8	5 1/2
2 3/16	8.10	9	5 1/2
2 7/16	10.20	10	6 5/8
2 11/16	12.90	11	6 5/8
2 15/16	16.20	12	8 1/8
3 3/16	20.70	13	8 1/8
3 7/16	26.20	14	9 5/8
3 11/16	32.10	15	9 5/8
3 15/16	38.00	16	11
4 3/16	44.25	16	11
4 7/16	50.50	16	13 1/4
4 15/16	64.50	18	13 1/4
5 7/16	78.50	20	15 1/4

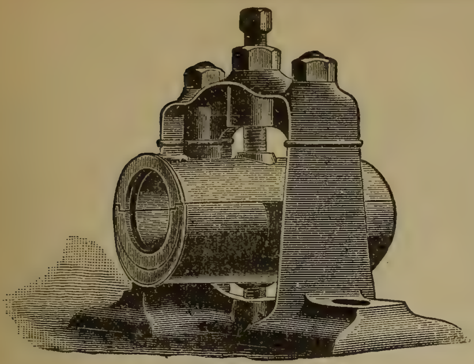
DIMENSIONS OF ADJUSTABLE SELF-OILING AND RING-OILING POST HANGERS

See Table below, and for Diameter of Shaft and Length of Bearing see Table in Price List above.



No. of Frame.	Diameter of Shaft.	A	B	C	D	E	F		H		I	Bolts	
							Ring Oiling.	Self Oiling.	Ring Oiling.	Self Oiling.		No.	Size.
1	15/16	4	9 1/8	3	6 7/8	5/8	..	1	..	5	3	2	1/2
1	1 3/16	4	9 1/8	3	6 7/8	5/8	..	1	..	5	3	2	1/2
1	1 5/16	4	9 1/8	3	6 7/8	5/8	..	1	..	5	3	2	1/2
2	1 7/16	4 5/8	10 1/2	3 3/4	7 1/2	3/4	1 1/16	1 1/4	5 3/4	5 5/8	3 3/4	2	1/2
2	1 11/16	4 5/8	10 1/2	3 3/4	7 1/2	3/4	1 1/16	1 1/4	5 3/4	5 5/8	3 3/4	2	1/2
3	1 15/16	5 1/2	13	4 1/4	9	1	1 15/16	2	7	7	4 1/4	2	5/8
3	2 3/16	5 1/2	13	4 1/4	9	1	1 1/2	1 1/2	7 1/2	7 1/2	4 1/4	2	5/8
4	2 7/16	6 5/8	15	4 3/4	11 1/4	1 1/8	1 7/8	1 7/8	8	8	4 3/4	2	5/8
4	2 11/16	6 5/8	15	4 3/4	11 1/4	1 1/8	1 7/8	1 7/8	8	8	4 3/4	2	5/8
5	2 15/16	8 1/8	17 3/4	6	13 5/8	1 1/4	3 5/8	3 3/8	9	9 1/4	5 1/8	2	3/4
5	3 3/16	8 1/8	17 3/4	6	13 5/8	1 1/4	3 5/8	3 3/8	9	9 1/4	5 1/8	2	3/4
6	3 7/16	9 5/8	22 1/8	7 1/4	16 1/4	1 3/8	3 3/4	3 1/8	9 3/4	10 1/4	7	2	1
6	3 11/16	9 5/8	22 1/8	7 1/4	16 1/4	1 3/8	3 3/4	3 1/8	9 3/4	10 1/4	7	2	1
7	3 15/16	11	25 1/8	8	18 1/2	1 1/2	4 3/4	4 3/8	10 3/4	11	7 1/2	2	1
7	4 3/16	11	25 1/8	8	18 1/2	1 1/2	4 3/4	4 3/8	10 3/4	11	7 1/2	2	1
8	4 7/16	13 1/4	29 1/2	8 1/4	22 1/4	1 1/2	5 3/4	5 1/2	11 1/2	11 3/4	8	2	1 1/8
8	4 11/16	13 1/4	29 1/2	8 1/4	22 1/4	1 1/2	5 3/4	5 1/2	11 1/2	11 3/4	8	2	1 1/8
9	4 15/16	13 1/4	30	8 1/4	22 1/4	1 1/2	5 3/8	5 1/4	12	12 1/4	8	2	1 1/4
9	5 3/16	13 1/4	30	8 1/4	22 1/4	1 1/2	5 3/8	5 1/4	12	12 1/4	8	2	1 1/4
10	5 7/16	15 1/4	35	11 1/8	26 1/8	1 1/2	7	5 5/8	12 1/2	13 1/2	8 3/4	2	1 1/4
10	5 11/16	15 1/4	35	11 1/8	26 1/8	1 1/2	7	5 5/8	12 1/2	13 1/2	8 3/4	2	1 1/4
10	5 15/16	15 1/4	35	11 1/8	26 1/8	1 1/2	6 7/8	5 5/8	12 1/2	13 1/2	8 3/4	2	1 1/4

ADJUSTABLE SELF-OILING PEDESTAL.

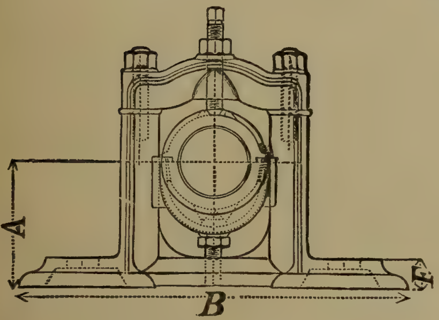


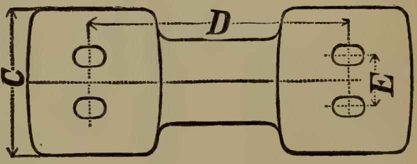
Diam. of Shaft.	Price.	Length of Bearing.	Diam. of Shaft.	Price.	Length of Bearing.
$\frac{15}{16}$	$3.90	4	$2\frac{15}{16}$	$16.90	12
$1\frac{3}{16}$	4.20	5	$3\frac{3}{16}$	21.10	13
$1\frac{5}{16}$	4.50	5	$3\frac{7}{16}$	25.30	14
$1\frac{7}{16}$	4.80	6	$3\frac{11}{16}$	30.60	15
$1\frac{11}{16}$	5.90	7	$3\frac{15}{16}$	35.80	16
$1\frac{15}{16}$	7.40	8	$4\frac{3}{16}$	41.70	16
$2\frac{3}{16}$	9.30	9	$4\frac{7}{16}$	47.60	16
$2\frac{7}{16}$	11.30	10	$4\frac{15}{16}$	60.50	18
$2\frac{11}{16}$	13.80	11	$5\frac{7}{16}$	75.50	20

Fig. 1998.

These Pedestals can be used as Short Drop Hangers by inverting the box.

DIMENSIONS OF ADJUSTABLE SELF-OILING AND RING-OILING PEDESTALS.





No. of Frame.	Diameter of Shaft.	A	B	C	D	E	F	Bolts. No.	Bolts. Size.
1	$\frac{15}{16}$	$3\frac{1}{2}$	$10\frac{3}{4}$	4	$6\frac{7}{8}$	..	1	2	$\frac{1}{2}$
1	$1\frac{3}{16}$	$3\frac{1}{2}$	$10\frac{3}{4}$	4	$6\frac{7}{8}$	..	1	2	$\frac{1}{2}$
1	$1\frac{5}{16}$	$3\frac{1}{2}$	$10\frac{3}{4}$	4	$6\frac{7}{8}$	..	1	2	$\frac{1}{2}$
2	$1\frac{7}{16}$	4	$12\frac{1}{8}$	$4\frac{1}{4}$	8	..	$1\frac{1}{8}$	2	$\frac{1}{2}$
2	$1\frac{11}{16}$	4	$12\frac{1}{8}$	$4\frac{1}{4}$	8	..	$1\frac{1}{8}$	2	$\frac{1}{2}$
3	$1\frac{15}{16}$	$4\frac{1}{4}$	$13\frac{7}{8}$	$5\frac{1}{8}$	$9\frac{1}{2}$	..	$1\frac{1}{4}$	2	$\frac{5}{8}$
3	$2\frac{3}{16}$	$4\frac{3}{4}$	$13\frac{7}{8}$	$5\frac{1}{8}$	$9\frac{1}{2}$	..	$1\frac{1}{4}$	2	$\frac{5}{8}$
4	$2\frac{7}{16}$	$5\frac{1}{4}$	$16\frac{7}{8}$	$5\frac{7}{8}$	$11\frac{5}{8}$	..	$1\frac{3}{8}$	2	$\frac{7}{8}$
4	$2\frac{11}{16}$	$5\frac{1}{4}$	$16\frac{7}{8}$	$5\frac{7}{8}$	$11\frac{5}{8}$	..	$1\frac{3}{8}$	2	$\frac{7}{8}$
5	$2\frac{15}{16}$	6	19	$6\frac{1}{2}$	13	..	$1\frac{5}{8}$	2	$\frac{7}{8}$
5	$3\frac{3}{16}$	6	19	$6\frac{1}{2}$	13	..	$1\frac{5}{8}$	2	$\frac{7}{8}$
6	$3\frac{7}{16}$	7	$21\frac{5}{8}$	$8\frac{1}{4}$	$14\frac{1}{2}$	$2\frac{7}{8}$	$1\frac{3}{4}$	4	$\frac{7}{8}$
6	$3\frac{11}{16}$	7	$21\frac{5}{8}$	$8\frac{1}{4}$	$14\frac{1}{2}$	$2\frac{7}{8}$	$1\frac{3}{4}$	4	$\frac{7}{8}$
7	$3\frac{15}{16}$	$7\frac{1}{4}$	$23\frac{1}{8}$	$8\frac{5}{8}$	16	$2\frac{7}{8}$	$1\frac{3}{4}$	4	1
7	$4\frac{3}{16}$	$7\frac{1}{4}$	$23\frac{1}{8}$	$8\frac{5}{8}$	16	$2\frac{7}{8}$	$1\frac{3}{4}$	4	1
8	$4\frac{7}{16}$	$7\frac{1}{2}$	$24\frac{1}{4}$	$9\frac{1}{8}$	$17\frac{1}{8}$	$3\frac{1}{2}$	$1\frac{7}{8}$	4	1
8	$4\frac{11}{16}$	$7\frac{1}{2}$	$24\frac{1}{4}$	$9\frac{1}{8}$	$17\frac{1}{8}$	$3\frac{1}{2}$	$1\frac{7}{8}$	4	1
9	$4\frac{15}{16}$	8	$26\frac{1}{8}$	10	19	$3\frac{3}{4}$	$1\frac{7}{8}$	4	$1\frac{1}{8}$
9	$5\frac{3}{16}$	8	$26\frac{1}{8}$	10	19	$3\frac{3}{4}$	$1\frac{7}{8}$	4	$1\frac{1}{8}$
10	$5\frac{7}{16}$	$8\frac{3}{4}$	$27\frac{1}{2}$	10	$19\frac{1}{4}$	4	$1\frac{7}{8}$	4	$1\frac{1}{4}$
10	$5\frac{11}{16}$	$8\frac{3}{4}$	$27\frac{1}{2}$	10	$19\frac{1}{4}$	4	$1\frac{7}{8}$	4	$1\frac{1}{4}$
10	$5\frac{15}{16}$	$8\frac{3}{4}$	$27\frac{1}{2}$	10	$19\frac{1}{4}$	4	$1\frac{7}{8}$	4	$1\frac{1}{4}$

RIGID PILLOW BLOCK.

PLAIN BEARINGS.

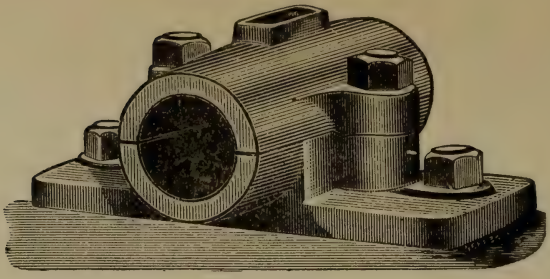
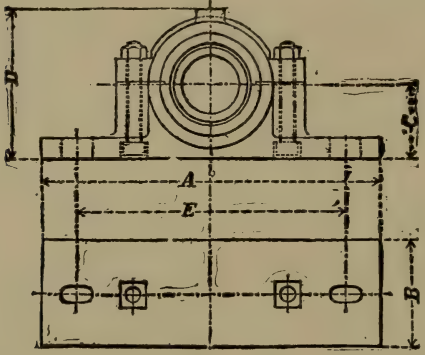


Fig. 1999.



PRICE LIST AND DIMENSIONS OF RIGID PILLOW BLOCKS WITH PLAIN BEARINGS.

Diam. of Shaft.	Price.	Length of Bearing.	A	B	C	D	E	Thickness of Foot.	Size of Bolts.
$\frac{15}{16}$	$1.30	$3\frac{1}{8}$ in.	7	$1\frac{7}{8}$	1	2	$5\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{2}$
$1\frac{3}{16}$	1.60	4 "	$7\frac{1}{4}$	$2\frac{1}{8}$	$1\frac{1}{8}$	$2\frac{1}{2}$	$5\frac{1}{2}$	$\frac{1}{2}$	$\frac{1}{2}$
$1\frac{7}{16}$	2.00	$4\frac{3}{4}$ "	$7\frac{3}{4}$	$2\frac{5}{8}$	$1\frac{3}{8}$	$2\frac{7}{8}$	$5\frac{7}{8}$	$\frac{9}{16}$	$\frac{1}{2}$
$1\frac{11}{16}$	2.65	$5\frac{3}{4}$ "	9	3	$1\frac{1}{2}$	$3\frac{1}{4}$	7	$\frac{5}{8}$	$\frac{5}{8}$
$1\frac{15}{16}$	3.35	$6\frac{3}{8}$ "	$9\frac{1}{4}$	$3\frac{1}{2}$	$1\frac{3}{4}$	$3\frac{5}{8}$	$7\frac{1}{8}$	$\frac{5}{8}$	$\frac{5}{8}$
$2\frac{3}{16}$	4.00	$7\frac{1}{4}$ "	$9\frac{1}{2}$	$3\frac{7}{8}$	$1\frac{7}{8}$	4	$7\frac{3}{8}$	$\frac{3}{4}$	$\frac{3}{4}$
$2\frac{7}{16}$	4.80	8 "	$11\frac{1}{8}$	$4\frac{1}{4}$	$2\frac{1}{8}$	$4\frac{7}{16}$	$8\frac{1}{2}$	$\frac{13}{16}$	$\frac{3}{4}$
$2\frac{11}{16}$	5.65	9 "	$11\frac{1}{2}$	$4\frac{3}{4}$	$2\frac{1}{4}$	$4\frac{11}{16}$	9	$\frac{7}{8}$	$\frac{3}{4}$
$2\frac{15}{16}$	6.70	$9\frac{3}{4}$ "	$12\frac{3}{4}$	$5\frac{1}{4}$	$2\frac{1}{2}$	$5\frac{1}{8}$	$9\frac{3}{4}$	1	$\frac{7}{8}$
$3\frac{3}{16}$	7.75	$10\frac{1}{2}$ "	$13\frac{1}{4}$	$5\frac{1}{2}$	$2\frac{3}{4}$	$5\frac{1}{2}$	$10\frac{1}{2}$	1	$\frac{7}{8}$
$3\frac{7}{16}$	8.90	$11\frac{1}{2}$ "	$13\frac{3}{4}$	6	$2\frac{7}{8}$	$5\frac{3}{4}$	$10\frac{3}{4}$	1	$\frac{7}{8}$
$3\frac{11}{16}$	10.10	$12\frac{1}{4}$ "	$15\frac{1}{4}$	$6\frac{1}{2}$	$3\frac{1}{8}$	$6\frac{3}{16}$	$11\frac{1}{2}$	$1\frac{3}{36}$	$\frac{7}{8}$
$3\frac{15}{16}$	11.50	13 "	16	7	$3\frac{1}{4}$	$6\frac{5}{8}$	$12\frac{1}{2}$	$1\frac{1}{4}$	1
$4\frac{3}{16}$	13.25	14 "	17	7	$3\frac{5}{8}$	$7\frac{1}{8}$	13	$1\frac{3}{8}$	1
$4\frac{7}{16}$	15.00	15 "	$18\frac{1}{4}$	7	$3\frac{5}{8}$	$7\frac{5}{16}$	$14\frac{1}{2}$	$1\frac{1}{2}$	$1\frac{1}{4}$
$4\frac{15}{16}$	19.00	18 "	$18\frac{1}{4}$	7	$4\frac{3}{8}$	$9\frac{1}{8}$	$14\frac{1}{2}$	$1\frac{9}{16}$	$1\frac{1}{4}$
$5\frac{7}{16}$	23.50	19 "	$20\frac{1}{4}$	7	$4\frac{3}{8}$	$9\frac{3}{8}$	16	$1\frac{9}{16}$	$1\frac{1}{4}$
$5\frac{15}{16}$	28.50	20 "	$20\frac{1}{4}$	7	$4\frac{3}{8}$	$9\frac{5}{8}$	16	$1\frac{9}{16}$	$1\frac{1}{4}$
$6\frac{7}{16}$	34.00	20 "	$22\frac{3}{4}$	8	$5\frac{7}{8}$	$11\frac{1}{2}$	$17\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{1}{2}$
$6\frac{15}{16}$	40.00	$20\frac{1}{4}$ "	$22\frac{3}{4}$	8	$5\frac{7}{8}$	$11\frac{3}{4}$	$17\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{1}{2}$
$7\frac{7}{16}$	47.00	21 "	$22\frac{3}{4}$	9	$5\frac{7}{8}$	12	$19\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{1}{2}$
$7\frac{15}{16}$	55.00	22 "	$22\frac{3}{4}$	9	$5\frac{7}{8}$	$12\frac{3}{8}$	$19\frac{3}{4}$	$1\frac{7}{8}$	$1\frac{1}{2}$

SOLE OR BASE PLATES.

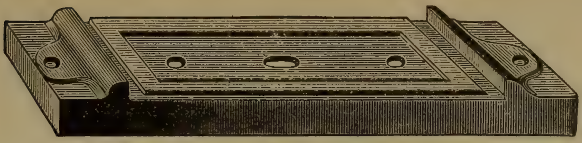
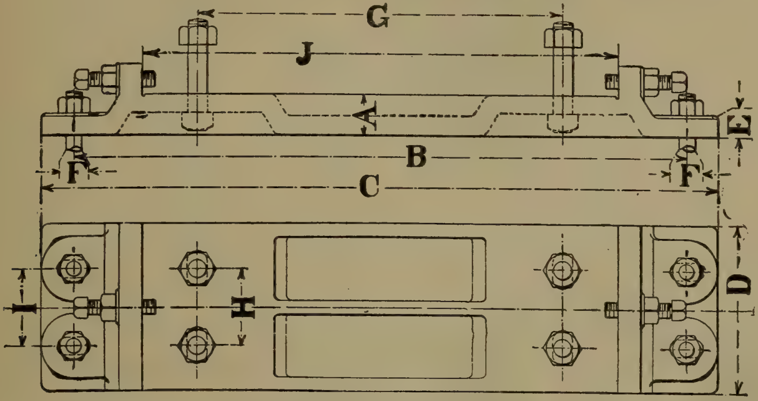


Fig. 2000.

Diameter of shaft . .	1 3/16	1 7/16	1 11/16	1 15/16	2 3/16	2 7/16	2 11/16	2 15/16	3 3/16	3 7/16
Price	$2.50	3.00	3.50	4.00	4.50	5.00	5.50	7.70	8.20	8.70
Diameter of shaft . .	3 11/16	3 15/16	4 7/16	4 15/16	5 7/16	5 15/16	6 7/16	6 15/16	7 7/16	7 15/16
Price	$9.20	11.00	14.60	22.00	23.50	25.00	27.00	28.50	31.00	33.20



DIMENSIONS FOR RIGID PILLOW BLOCK.

Page 610.

Diam. of Shaft.	A	B	C	D	E	F	G	H	I	J	No. of Bolts.
2 7/16	1 1/2	17 1/2	20 1/2	5 1/2	7/8	5/8	8 1/2	..	3	12 1/2	4
2 11/16	1 1/2	17 1/2	20 1/2	5 1/2	7/8	5/8	9	..	3	12 1/2	4
2 15/16	1 5/8	19 1/2	22 1/2	6 1/4	1	3/4	9 3/4	..	3 1/2	14 1/4	4
3 3/16	1 5/8	19 1/2	22 1/2	6 1/4	1	3/4	10 1/2	..	3 1/2	14 1/4	4
3 7/16	1 3/4	21	24 1/4	7	1 1/8	3/4	10 3/4	..	4	15	4
3 11/16	1 3/4	22 1/2	25 3/4	7 1/2	1 1/8	3/4	11 1/2	..	4	16 1/2	4
3 15/16	1 7/8	24	27 1/2	8	1 1/4	7/8	12 1/2	..	4 1/2	17 1/4	4
4 3/16	1 7/8	25	28 1/2	8	1 1/4	7/8	13	..	4 1/2	18 1/4	4
4 7/16	2	26 1/2	30 1/8	8	1 3/8	1	14 1/2	..	4 1/2	19 1/2	4
4 15/16	2	26 1/2	30 1/8	8	1 3/8	1	14 1/2	..	4 1/2	19 1/2	4
5 7/16	2 1/4	29	32 3/4	8	1 3/8	1	16	..	4 1/2	21 1/2	4
5 15/16	2 1/4	29	32 3/4	8	1 3/8	1	16	..	4 1/2	21 1/2	4
6 7/16	2 1/2	32	36	9	1 1/2	1	17 3/4	..	5	24 1/4	4
6 15/16	2 1/2	32	36	9	1 1/2	1	17 3/4	..	5	24 1/4	4
7 7/16	2 3/4	35	39 1/2	10	1 5/8	1	19 3/4	..	6	26 1/4	4
7 15/16	2 3/4	35	39 1/2	10	1 5/8	1	19 3/4	..	6	26 1/4	4

DIMENSIONS FOR ADJUSTABLE SELF-OILING AND RING-OILING PEDESTALS.

Page 609.

15/16 to 1 5/16	1 1/4	16 1/2	18 1/2	4 1/2	3/4	1/2	6 7/8	..	2 1/2	12 1/2
1 7/16 to 1 11/16	1 1/4	18	20	4 3/4	3/4	1/2	8	..	2 5/8	14
1 15/16 to 2 3/16	1 1/4	19 1/2	21 1/2	5 1/4	3/4	1/2	9 1/2	..	2 7/8	15 1/2
2 7/16 to 2 11/16	1 5/8	23 1/2	25 3/4	6 1/2	7/8	5/8	11 5/8	..	3 1/2	18 3/4
2 15/16 to 3 3/16	1 5/8	25 1/2	27 3/4	6 3/4	7/8	5/8	13	..	3 5/8	20 3/4
3 7/16 to 3 11/16	1 3/4	29 1/2	32 1/2	8 1/2	1	1	14 1/2	2 7/8	4 1/2	23 1/2
3 15/16 to 4 3/16	1 3/4	31	34	9	1	1	16	2 7/8	4 3/4	25
4 7/16 to 4 11/16	1 3/4	32	35	9 1/2	1	1	17 1/8	3 1/2	5	26
4 15/16 to 5 3/16	1 7/8	34 1/4	37 1/2	10 1/2	1	1 1/8	19	3 3/4	5 1/2	28
5 7/16 to 5 15/16	1 7/8	35 3/4	39 1/4	10 1/2	1	1 1/4	19 1/4	4	5 1/2	29 1/4

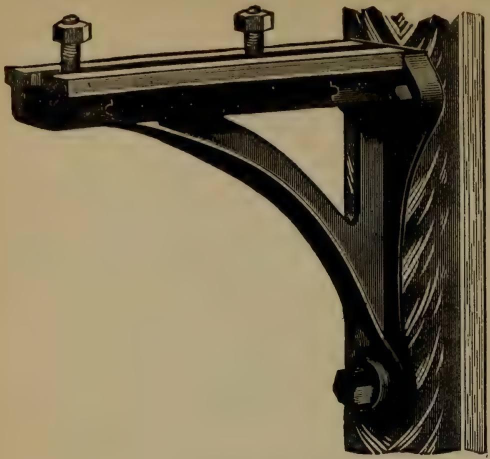


Fig. 2001.

WALL BRACKETS.

WITH BOLTS FOR SECURING PILLOW BLOCKS.

Designed for use when a greater distance from post to centre of box is required than can be obtained by the use of the regular form of Post Hanger. Any style of box desired can be used upon them.

Diam. of Shaft.	Projection to Centre of Shaft.	Price.
15/16 to 1 11/16	18 inches.	$5 50
	24 “	6.00
	30 “	6.50
1 15/16 to 3 3/16	18 “	10.20
	24 “	10.90
	30 “	11.60
3 7/16 to 4 7/16	18 “	18.60
	24 “	19.60
	30 “	20.60
4 15/16 to 5 15/16	18 “	26.60
	24 “	28.00
	30 “	29.50

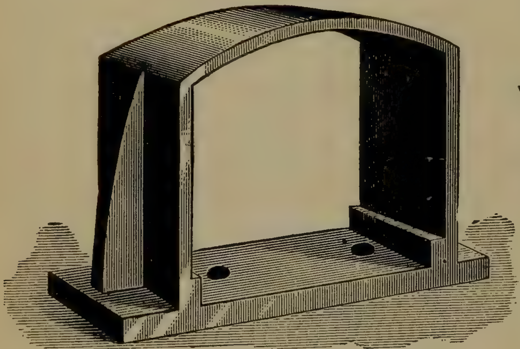


Fig. 2002.

WALL FRAMES OR BOXES.

Diam. of Shaft.	Price.	Diam. of Shaft.	Price.
1 3/16	$6 50	3 7/16	$21 50
1 7/16	7.00	3 11/16	24.00
1 11/16	7.50	3 15/16	27.50
1 15/16	9.00	4 7/16	31.50
2 3/16	10.50	4 15/16	35.50
2 7/16	12.00	5 7/16	43 50
2 11/16	13.50	5 15/16	50.00
2 15/16	16.00	6 7/16	55 00
3 3/16	19.00	6 15/16	60.00

BEAM CLAMPS.

MADE TO FIT ALL SIZES OF I BEAMS.

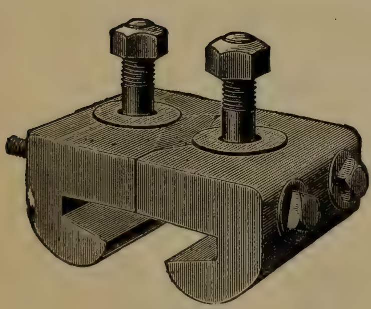


Fig. 2003.

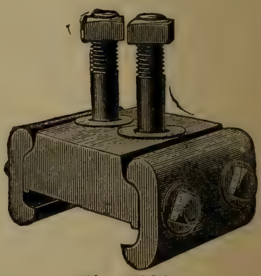


Fig. 2004.

Price, each $3.00

STANDARD CROSS ARMS.

3¼ x 4¼ inches, Painted and Bored for 1¼ inch Pins.

Fig. 2005.

No. Pins	2	4	4	4	6	6	8	8	10
Length, feet	3	4	5	6	6	8	8	10	10
In Lots less than 500 lineal feet,	Each $0.33	.44	.55	.66	.66	.88	.88	1.20	1 20
In Lots of 500 to 1,000 lineal feet,	" .27	.36	.45	.54	.54	.72	.72	1.00	1.00

In Lots over 1 000 lineal feet, Special Price.

CROSS ARM BRACES.

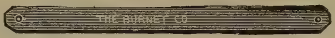


Fig. 2006.

Plain Iron	28 x 1¼ x ¼ inches,	Per pair $0.17½
Galvanized Iron	28 x 1¼ x ¼ "	" .23
Plain Iron	26 x 1¼ x ¼ "	" .15
Galvanized Iron	26 x 1¼ x ¼ "	" .18
Plain Iron	24 x 1¼ x ¼ "	" .14
Galvanized Iron	24 x 1¼ x ¼ "	" .16½

WOOD PINS.

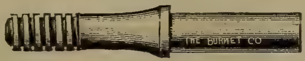


Fig. 2007.

Size 1½ inch, Locust, . . Per 1,000 $21.00 Size 1½ inch, Oak, Painted, Per 1,000 $15.00

Wood Pins furnished in 1¼ inch size at same prices.

BROWN'S DUPLEX PINS.

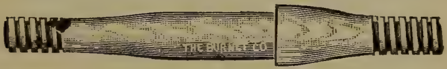


Fig. 2008.

Size 1¼ inch, Oak, Painted, Per 1,000 $30.00 Size 1½ inch, Locust, . . Per 1,000 $40.00

STEEL INSULATOR PINS.

(Patented.)

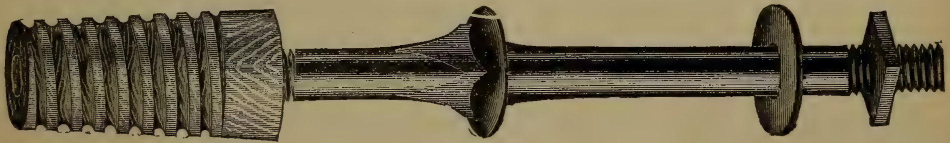


Fig. 2009.

Size ½ inch diameter at Nut End, ... Each, $0.07

WOOD BRACKETS.

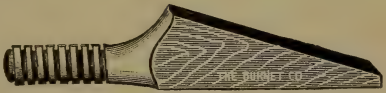


Fig. 2010.

Oak, Painted, ... Per 1,000 $21.00

GLASS INSULATORS.

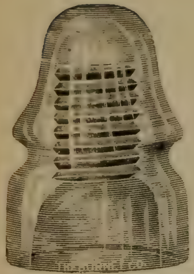

THE BURNET CO.

Fig. 2011.

REGULAR PATTERN.

Per 1000, $56.00.
Packed 250
in a bbl.

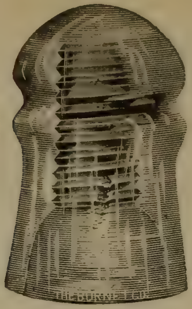

THE BURNET CO.

Fig. 2012.

WESTERN UNION PATTERN.

Per 1000, $72.00.
Packed 200
in a bbl.

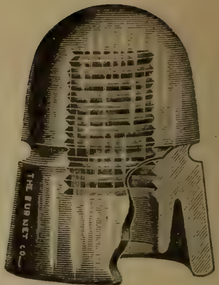

THE BURNET CO.

Fig. 2013.

WESTERN UNION DOUBLE PETTICOAT.

Per 1000, $78.00.
Packed 165
in a bbl.

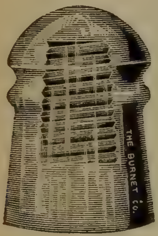

THE BURNET CO.

Fig. 2014.

PONY.

Per 1000, $34.00.
Packed 300 to
350 in a bbl.

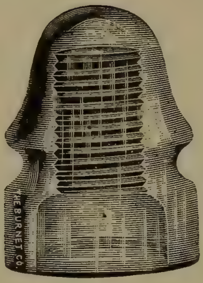

THE BURNET CO.

Fig. 2015.

DEEP GROOVE.

Per 1000, $61.00.
Packed 200
in a bbl.

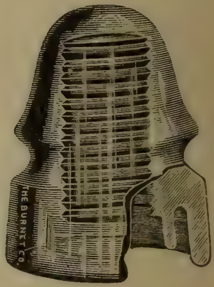

THE BURNET CO.

Fig. 2016.

DEEP GROOVE DOUBLE PETTICOAT.

Per 1000, $68.00.
Packed 175
in a bbl.

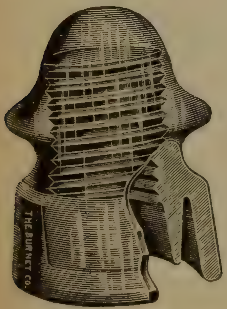

THE BURNET CO.

Fig. 2017.

EXTRA DEEP GROOVE

DOUBLE PETTICOAT, CABLE PATTERN.

Price, per 1000 . . . . $68.00

Packed 165 in a barrel.

W. B. G. FUSE PROTECTORS.

GUARDIAN PATTERN.

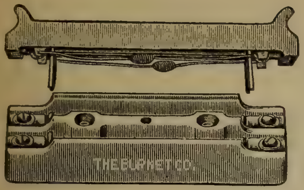

THE BURNET CO.

Fig. 2018.

Made in Single and Double Pole.

Single Pole, complete with Fuse, . . .	Each,	$0.50
Double " " " Fuses, . . .	"	1.00
Renewal Fuses, ...	"	.06

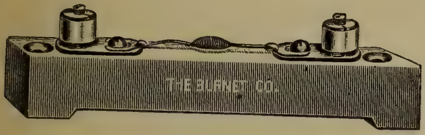

THE BURNET CO.

Fig. 2019.

SIMPLEX PATTERN.

3 inch Porcelain Base, 1½ inch Fuse.

Complete with Fuse, . . .	Each	$0.25
Renewal Fuses, ...	"	.06

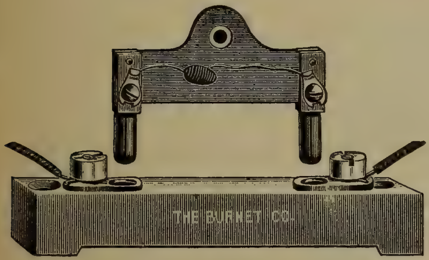

THE BURNET CO.

Fig. 2020.

MUNICIPAL PIN PATTERN.

Separable Fuse Holder.

4 inch Porcelain Base, 1½ inch Fuse.

Complete with Fuse, . . .	Each,	$0.50
Renewal Fuses, ...	"	.06

NOTE 1—Simplex or Municipal W. B. G. Protectors can be mounted side by side to accommodate as many wires as may be required. One for each wire.

NOTE 2—Mica partitions 4x1½ inches to locate between the Protectors will be supplied when wanted, at 3 cents each.

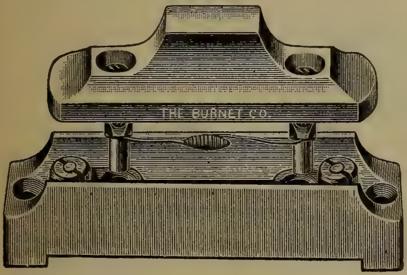

THE BURNET CO.

Fig. 2021.

SINGLE POLE COVERED PIN PATTERN.

Porcelain Base and Cover, Base 4x1 inches.

Complete with Fuse, ...	Each,	$0.50
Renewal Fuses, ...	"	.06

The Fuse is entirely concealed when in position. In ordering Fuse Protectors specify amperage of Fuse required—usual amperage is .4 or .8 of an ampere.

W. B. G. RENEWAL FUSE.

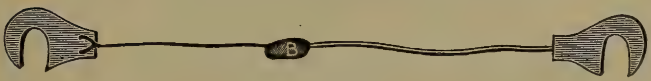


Fig. 2022.

Made in various capacities ranging from $\frac{2}{10}$ an ampere upward. Regular stock lengths are ¾, 1¼, 1½, 3 and 6 inches. In ordering specify the length and amperage of Fuse, and give figure number of Protector they are to be used for. All the above are patented. Patent No. 611,243 F. P. & Co.

ARGUS LIGHTNING ARRESTER

TYPE B.)

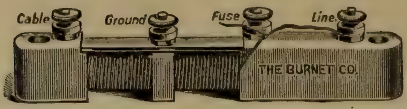


Fig. 2023.

Dimensions, 7 inches long, ¾ inches wide, 1 inch high.
Has a fuse wire at one end, which protects wires and cables from crosses with high tension currents.

Price, each	$0.90
Price, mounted in weather-proof cable box, each	1.10

PONY RELAY.

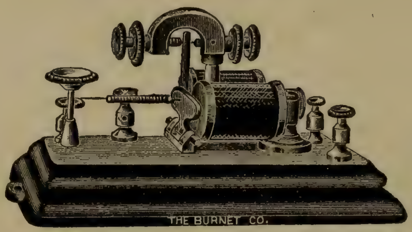

THE BURNET CO.

Fig. 2024.

	20 Ohms.	50 Ohms.	100 Ohms.
Price	$3.50	4.00	4.50

MAIN LINE BOX RELAY.

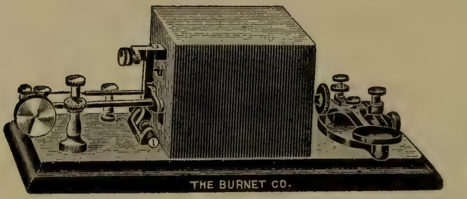

THE BURNET CO.

Fig. 2025.

Price, 150 ohms, with key	$10.00
" 150 " without key	8.50

MAIN LINE RELAY.

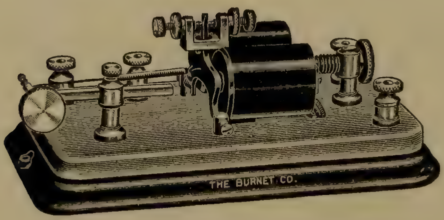

THE BURNET CO.

Fig. 2026.

	150 Ohms.	200 Ohms.	300 Ohms.
Price	$7.00	7.50	8.00

GIANT SOUNDER.

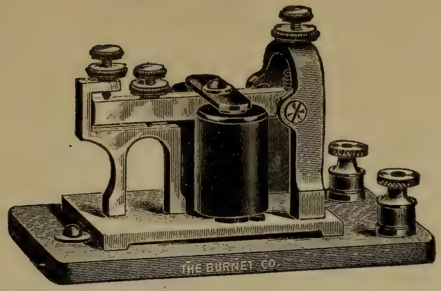

THE BURNET CO.

Fig. 2027.

Price	$3.00

GIANT COMBINATION SET,

CONSISTING OF GIANT SOUNDER AND STEEL LEVER KEY.

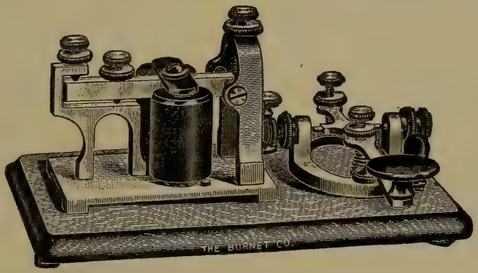

THE BURNET CO.

Fig. 2028.

Price, Wound 20 Ohms	$6.50
" " Local for Short Lines	6.00

STEEL LEVER LEG KEY.

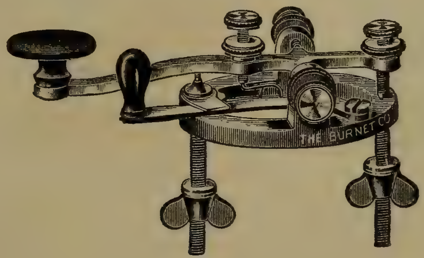

THE BURNET CO.

Fig. 2029.

Price, Fig. 2029, Steel Lever Key	$1.75
" Victor Key, Brass, $2.30; Nickel-Plated	2.50

STEEL LEVER LEGLESS KEY.

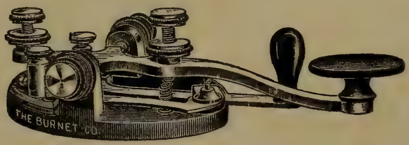

THE BURNET CO.

Fig. 2030.

Price, Fig. 2030, Steel Lever Key	$2.50
" Victor Key, Brass, $2.80; Nickel-Plated	3.00

SWITCHES.

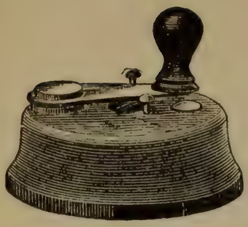


Fig. 2031.

HOLLOW BASE SWITCH.

Price, with 1 Point	$0.30
" " 2 Points	.35
" " 3 "	.40

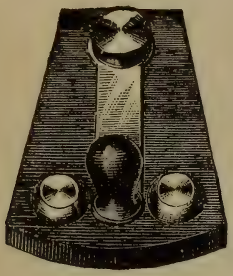


Fig. 2032.

HARD RUBBER BASE SWITCH.

Price, with 1 Point	$1.00
" " 2 Points	1.20
" " 3 "	1.40

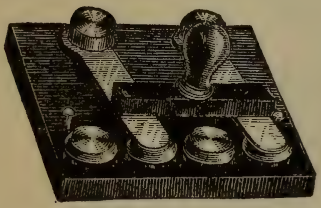


Fig. 2033.

POLE CHANGING SWITCH.

Price, Wire Terminals	$2.00
" B. Post "	2.60

TELEGRAPH SWITCHES.

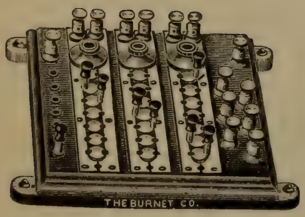


Fig. 2034.

1	Line,	2	Perpendicular Bars	$3.00
2	"	4	" "	6.00
3	"	6	" "	10.00
4	"	8	" "	14.00
5	"	10	" "	18.00
6	"	12	" "	25.00
7	"	14	" "	30 00
8	"	16	" "	38.00
10	"	20	" "	55.00
12	"	24	" "	74.00

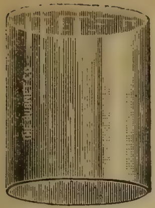


Fig. 2035.

GLASS BATTERY JARS.

INSIDE MEASURE.

Size, 6x8 inches, per dozen	$3.60
" 5x7 " "	3.00

Packed 2 doz. in a case.

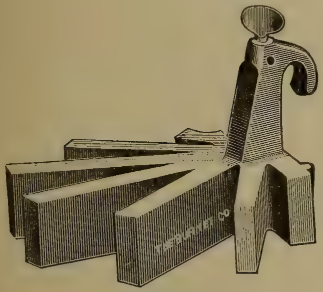


Fig. 2036.

COMPOSITE ZINC. CROW FOOT PATTERN.

For Jar.	Weight.	Each.
6x8 inches,	3 lbs.	$0.40
5x7 "	1¾ "	.25

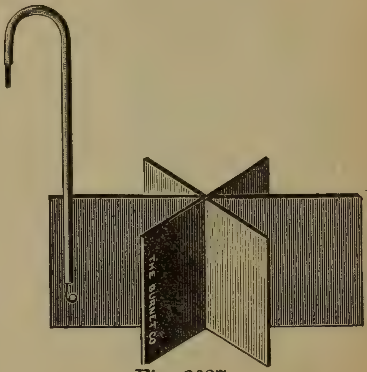


Fig. 2037.

BATTERY COPPERS.

For Jar.	Per 100.
6x8 inches	$16.00
5x7 "	14.00

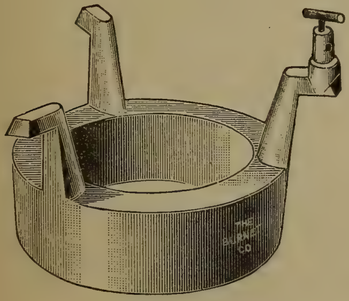


Fig. 2038.

GAMEWELL OR BALTO. F. A. ZINC.

For Jar.	Weight.	Each.
6x8 inches.	3 lbs.	$0.40
6x8 "	4 "	.50

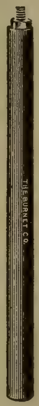

THE BURNET CO.

Fig. 2039.

COMPOSITE ZINC LECLANCHE PATTERN.

Size	Per 100.
⅜x6	$8.00

SULPHATE OF COPPER.

(BLUE STONE.)

In barrels, about 400 lbs.; price, per lb.	$0.10

CHLORIDE OF AMMONIA.

(SAL AMMONIAC.)

In casks, about 600 lbs.; per lb.	$0.15
In smaller quantities "	.20

LECLANCHE POROUS CUP BATTERY.

(IMPROVED.)

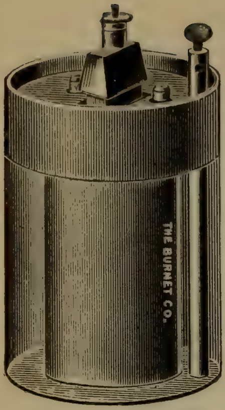

THE BURNET CO.

Fig. 2040.

	Price.
Battery, complete cell.	$1.00
Porous Cup	.75
Glass Jar	.15
Glass Cover	.12
Zinc, with connector	.08
Sal Ammoniac	.08
Battery, complete cell, hermetically sealed	1.50

CYLINDER CARBON BATTERY.

FOR OPEN CIRCUIT WORK.

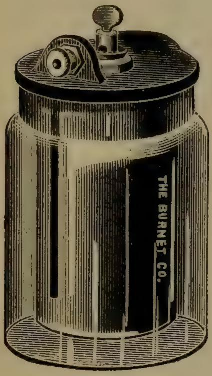

THE BURNET CO.

Fig. 2041.

	Price.
Cell, complete	$0 75
Parts.	
Cylinder Carbon	.40
Carbon Connector	.10
Zinc	.08
Jar	.15
Zinc Insulator	.02
Rubber Ring	.01
Sal Ammoniac	.08

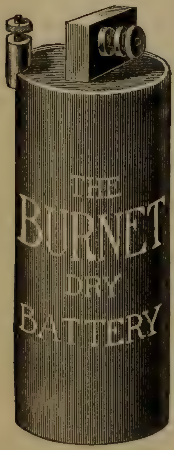


Fig. 2042.

THE

BURNET DRY BATTERY,

FOR

ANNUNCIATORS, BURGLAR ALARMS, CALL BELLS,

DOOR OPENERS, TELEPHONES,

And all open circuit work in general.

Size 6 inches high, $2\frac{1}{2}$ inches diameter.

Price each, $0.40.

SPLICING CLAMPS.

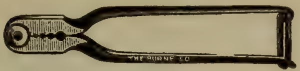

THE BURNET CO.

Fig. 2043.

Fig. 2043. 7 inches, Copper Wire, Nos. 9 to 16 both, inclusive, price, each $2.20

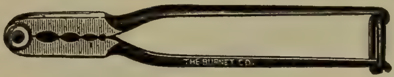

THE BURNET CO.

Fig. 2044.

Fig. 2044. For McIntire Joints, Nos. 10, 12 and 14, B. and S., price, each $2.20

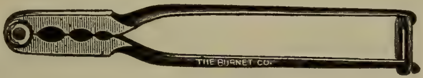

THE BURNET CO.

Fig. 2045.

Fig. 2045. For Railroad work, Nos. 0, 2 and 4 Wires, price, each . . $2.50

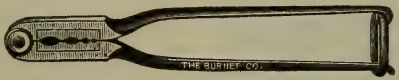

THE BURNET CO.

Fig. 2046.

COPPER JAWS.

Fig. 2046. For hard drawn Copper Wires, No. 8 and smaller, price, each . $3.50

SAFETY PLIERS.

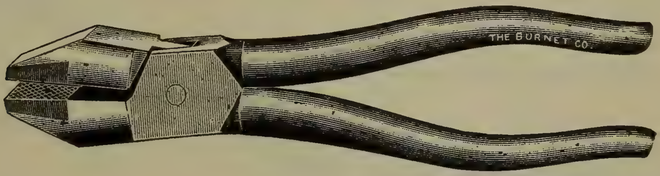

THE BURNET CO.

Fig. 2047.

WITH MICA INSULATED HANDLES.

Size, inches	6	8
Price, each	$2.25	$3.50

WITH RUBBER INSULATED HANDLES.

Size, inches	6	7	8
Price, each	$1.25	1.60	2.00

INSULATED HEAVY WIRE CLIPPER. OPENS TO 3-4 INCH.

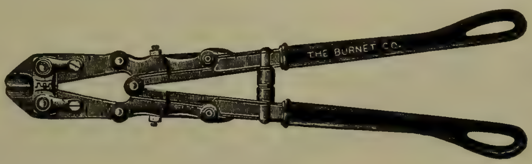

THE BURNET CO.

Fig. 2048.

Without Hook, Insulated Handles . . . . . . Price, each,	$7.00
With Fireman's Hook, Insulated Handles . . . . "	15.00

The Fireman's Hook on Jaw is to haul wires within reach.

PLIERS.

SIDE CUTTING, BOX JOINT.

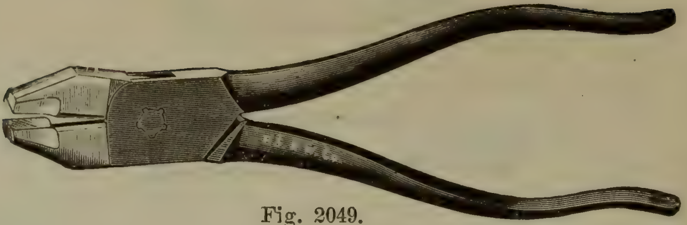


Fig. 2049.

Length, inches	5	6	7	8
Per dozen, Black	$12.50	13.50	17.00	20.00
" Nickel-Plated	14.50	15.50	19.50	22.50

SIDE CUTTING, LAP JOINT.

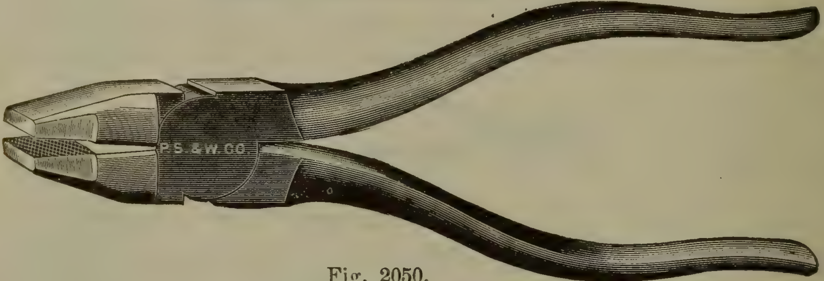


Fig. 2050.

These high-grade Pliers are forged from crucible steel, are well made and equal in every respect to any in the world, except the Box-Joint Pliers, Fig. 2049, illustrated above.

Length, inches	5	6	7	8
Per dozen, Black	$12.50	13.50	17.00	20.00

SIDE CUTTING, BOX JOINT, WITH SPLICING ATTACHMENT.

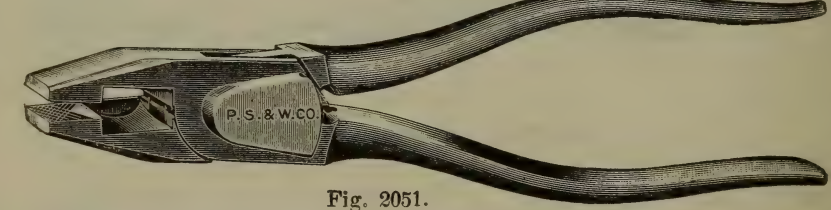


Fig. 2051.

These Pliers are especially designed for the use of Linemen and Wire Workers for splicing and connecting wires. They make a perfect and secure connection, absolutely fast and positive.

Length inches	6	7	8
Per dozen, Black	$18.00	22.00	25.00

SIDE CUTTING, LAP JOINT, WITH SPLICING ATTACHMENT.

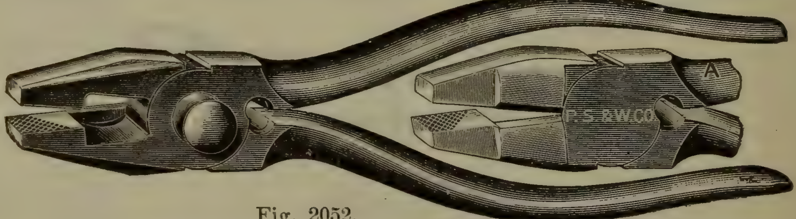


Fig. 2052.

These are for same purpose as Fig. 2051, but sold for a little less in price. "A" is a detail showing the side cutting-in above pliers.

Length, inches	6	7	8
Per dozen, Black	$18.00	22.00	25.00

PLIERS.

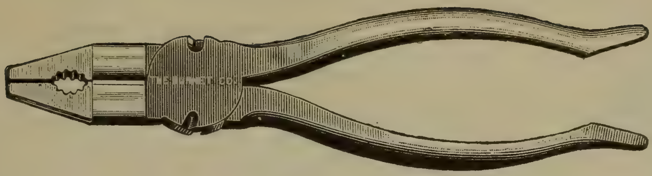


Fig. 2053.

Length, 6½ inches . . . . Per doz. $15.00

TELEGRAPH OR SIDE CUTTING.

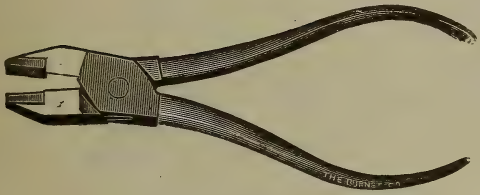


Fig. 2054.

Length.		Stubs'.		German.
4 inches,	Per doz.	$10.00	Per doz.	$6.70
4½ "	"	10.00	"	6.70
5 "	"	10.00	"	6.70
5½ "	"	10.00	"	7.40
6 "	"	11.00	"	8.40
6½ "	"	14.00	"	9.40
7 "	"	18.00	"	10.60
8 "	"	24.00	"	14.00
9 "	"	30.00		

DIAGONAL SIDE CUTTING.

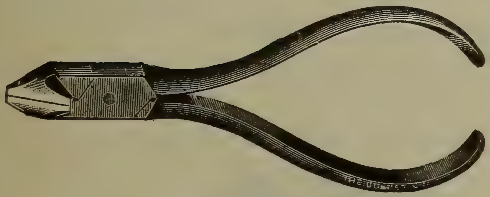


Fig. 2055

Length.		Stubs'.		German.
3 inches,	Per doz.	$10.50	Per doz.	$6.90
3½ "	"	10 50	"	6.90
4 "	"	10 50	"	6.90
4½ "	"	10.50	"	6.90
5 "	"	10.50	"	6.90
5½ "	"	11.50	"	7.80
6 "	"	14.00	"	8.80
6½ "	"	. . .	"	10.00
7 "	"	. . .	"	11.50
8 "	"	. . .	"	15.00

END CUTTING.

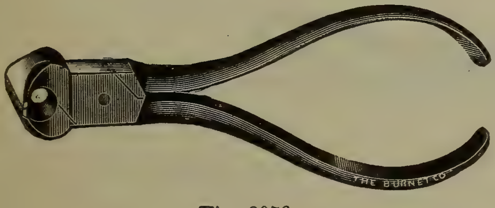


Fig. 2056.

Length.		Stubs'.		German.
3 inches,	Per doz.	$10.50	Per doz.	$6.50
3½ "	"	10.50	"	6.50
4 "	"	10.50	"	6.50
4½ "	"	10.50	"	6.50
5 "	"	10.50	"	6.50
5½ "	"	11.50	"	7.20
6 "	"	14.00	"	8.20
6½ "	"	16.50	"	10.00
7 "	"	19.00	"	11.50
8 "	"	25.00	"	14.00

ROUND LONG AND ROUND SHORT NOSE.

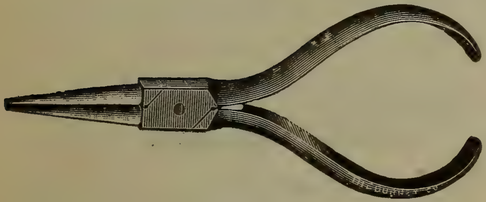


Fig. 2057.

Length.		Stubs'.		German.
3 inches,	Per doz.	$5.50	Per doz.	$3.60
3½ "	"	5.50	"	3.60
4 "	"	5.50	"	3.60
4½ "	"	5.50	"	3.60
5 "	"	6.00	"	4.00
5½ "	"	7.00	"	4.75
6 "	"	9.00	"	5.40
6½ "	"	12.00	"	6.40
7 "	"	14.00	"	7.50
8 "	"	20.00	"	10.00

Flat Nose Pliers take this List.

TELEGRAPH OR LINEMEN'S TOOLS.

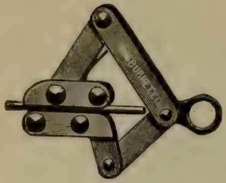


Fig. 2058.

THE AMERICAN GRIP.

(Patented August, 1897.)

Has no teeth. Will not slip.

For No. 6 B. & S. and smaller . . . . Price, $4.00

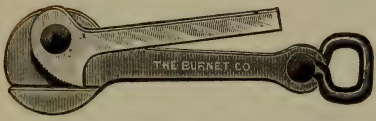


Fig. 2059.

ECCNETRIC WIRE CLAMPS.

Brass, for No. 8 Wire and finer .	. Each,	$2.00
Steel, " " " " " . .	"	1.60
Steel, " No. 0 " " " . .	"	2.50

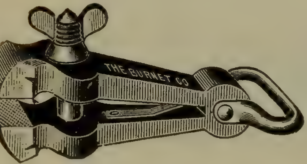


Fig. 2060.

LINEMEN'S VISES, STEEL-FACED, WITH LOOP.

Size, inches	5½	6
Each	$2.20	3.00

COPPER-FACED, WITH LOOP.

Size, inches	5½	6
Each	$3.00	4.00

HAND VISES (STUBS), WITHOUT LOOP.

Size, inches . . .	3	3½	4	4½	5	5½	6
Each	$1.00	1.10	1.20	1.40	1.70	2.00	2.85

LINEMEN'S VISES, WITH STRAP.

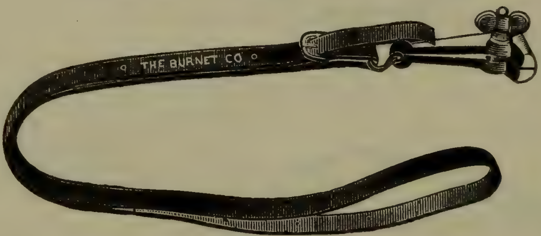


Fig. 2061.

Size, inches		5½	6
Steel faced	Each,	$3.50	4.00
Copper-faced	"	4.30	4.80

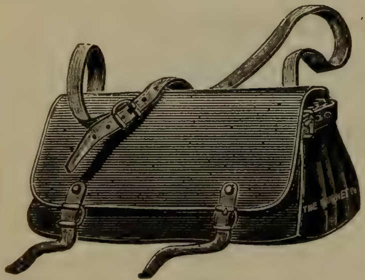


Fig. 2062.

LEATHER TOOL BAG.

With Shoulder Straps and Separate Outside Pocket for Saws.

Price each, $7.00.

CANVAS TOOL BAG.

Price each, $3 50.

TELEGRAPH OR LINEMEN'S TOOLS.

CLIMBERS (HAND MADE).

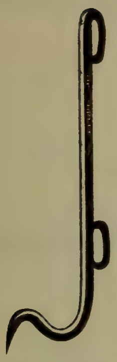


Fig. 2063.

WESTERN.

Goose-Neck Pattern.

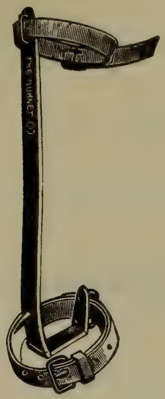


Fig. 2064.

EASTERN.

Regular Pattern.

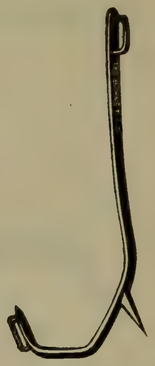


Fig. 2065.

DONNELY'S.

Special Hand-Made.

PRICE PER PAIR.

Without Straps, $3.20	Without Straps, $3.60	Without Straps, $4.00
With " 4.75	With " 5.10	With " 5.50
Straps, per set, 1.50	Straps, per set, 1.60	Straps, per set, 1.50

LINING OR CROWBARS.

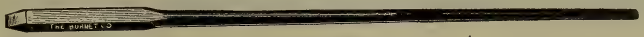


Fig. 2066.

Length, 5½ feet; weight, about 26 lbs.; per lb $0.12

COMBINED CROW AND DIGGING BARS.

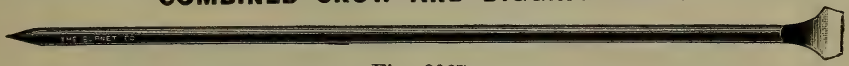


Fig. 2067.

Size, 1 inch, Octagon or Round Steel; weight, about 18 lbs.; per lb. . $0.12
" 1⅛ " " " " 25 " " . .12

COMBINED TAMPING AND DIGGING BARS.

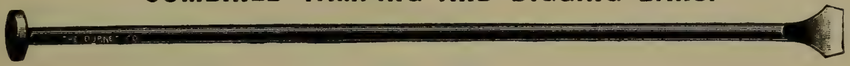


Fig. 2068.

Size, 1 inch, Octagon or Round Steel; weight, about 20 lbs.; per lb. . $0.16
" 1⅛ " " " " 28 " " . .16

ARMORED TAMPING BAR.

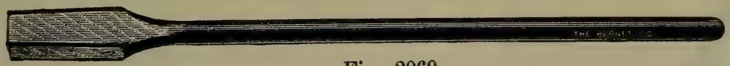


Fig. 2069.

Wood Body, Iron Face; price, each $2.60

POST HOLE DIGGERS.

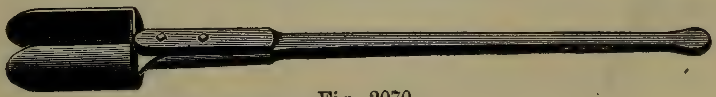


Fig. 2070.

Opens and closes, price, each $5.00

TELEGRAPH OR LINEMEN'S TOOLS.

PLAIN PIKE POLES.

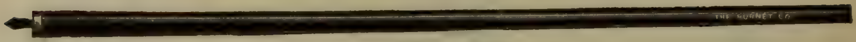


Fig. 2071.

Length, feet	10	12	14	16	18	20	22
Each	$1.90	2.00	2.20	2.40	2.80	3.20	3.60

GUARDED PIKE POLES.

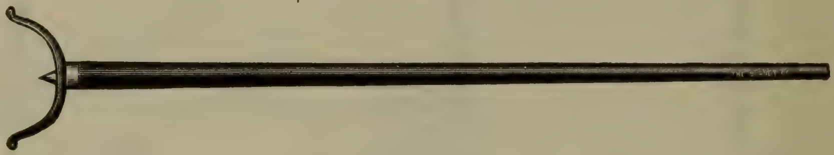


Fig. 2072.

Length, feet	10	12	14	16	18	20
Each	$2.80	3.00	3.20	3.40	3.60	3.80

GUARDED PIKES WITHOUT POLES.

Each $0.75

CROTCH PATTERN PIKE POLES.

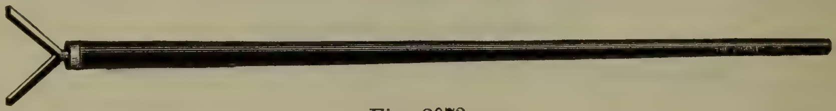


Fig. 2073.

Length, feet	10	12	14	16	18	20
Each	$2.80	3.00	3.20	3.40	3.60	3.80

HEAVY "DEAD MAN" PIKE POLES WITH GUARD.

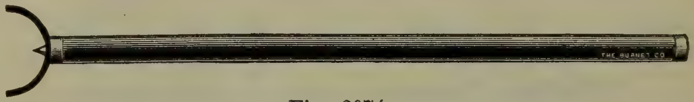
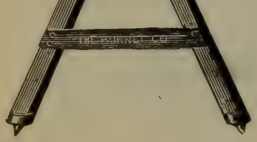


Fig. 2074.

Length, feet	5	6	8	10
Each	$2.80	3.15	3.50	4.20

DOUBLE POLE SUPPORT.



Price each, $8.50.

Fig. 2075.

SWIVEL GRIP POLE TONGS.

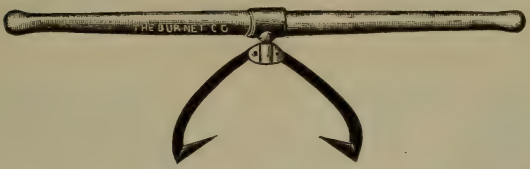


Fig. 2076.

Heavy weight, opening 21 inches, suitable for two or four men, price, each	$6.00

FOR CANT HOOKS, SEE PAGE 463.

WAGON PAY-OUT WIRE REELS.

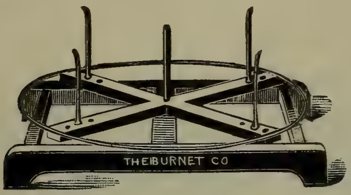


Fig. 2077.

Price, each	$12.00

BARROW PAY-OUT WIRE REELS.

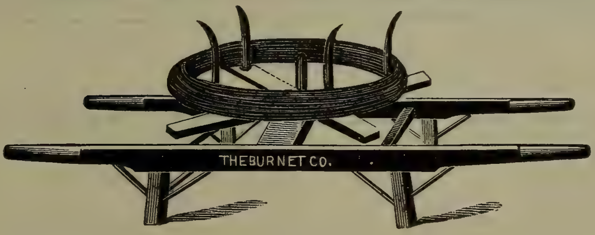

THE BURNET CO.

Fig. 2078.

Price, each	$12 00
Straps for Barrow Pay-out Reels, each	1.75

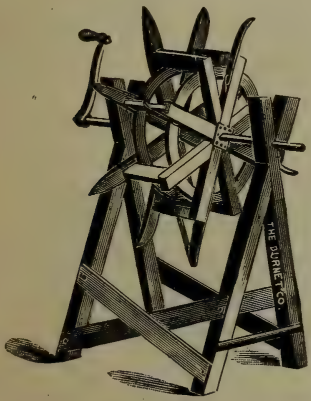

THE BURNET CO.

Fig. 2079.

TAKE-UP WIRE REELS.

Price, each	$15.00

WIRE AND DRILL GAUGES.

STEEL MUSIC WIRE GAUGE.

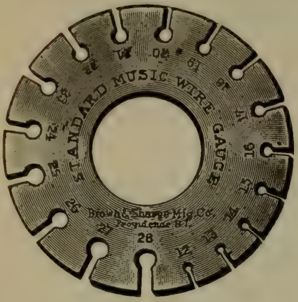

STANDARD MUSIC WIRE GAUGE
Brown & Sharpe Mfg. Co. Providence R.I.

Fig. 2080.
Cut Full Size.

Price $1.50

TWIST DRILL AND STEEL WIRE GAUGE.

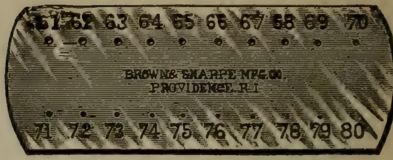


Fig. 2081.

Cut Full Size.

Gauge numbers from 61 to 80.

Price . . . $2.00

TWIST DRILL AND STEEL WIRE GAUGE.

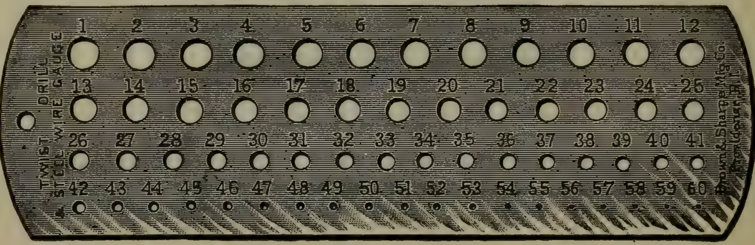

TWIST DRILL STEEL WIRE GAUGE
Brown & Sharpe Mfg. Co. Providence R.I.

Fig. 2082.
Cut three-quarters size.

Gauge numbers from 1 to 60. Price $1.50

ENGLISH STANDARD WIRE GAUGE.

The same as Stubs' Wire or Birmingham Gauge.

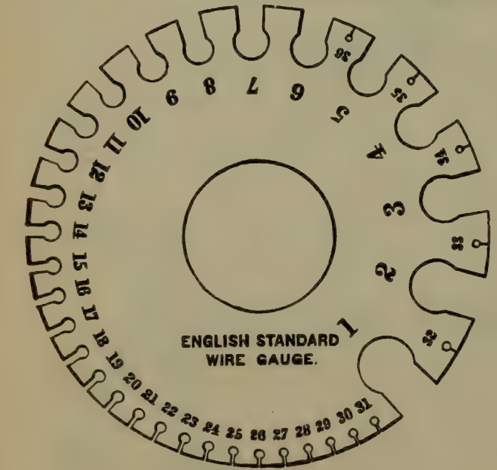


Fig. 2083.
Cut Full Size.

AMERICAN STANDARD WIRE GAUGE.

Adopted by the Brass Manufacturers, January, 1858.

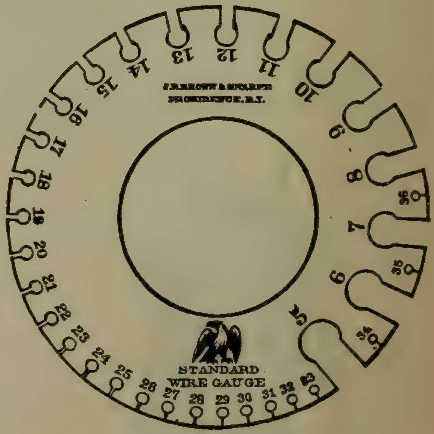


Fig. 2084.
Cut Full Size.

Fig. 2083.	Sizes, 1 to 36	. .	$2.00
" 2083A.	" 6 to 36	. .	1.50
Fig. 2084.	Sizes, 0 to 36	. .	$2.50
" 2084A.	" 5 to 36	. .	2.00

Fig. 2084A has the decimal equivalents, expressed in thousandths, stamped on the back, opposite to the regular gauge numbers.

GAUGES FOR IRON AND STEEL SHEETS.

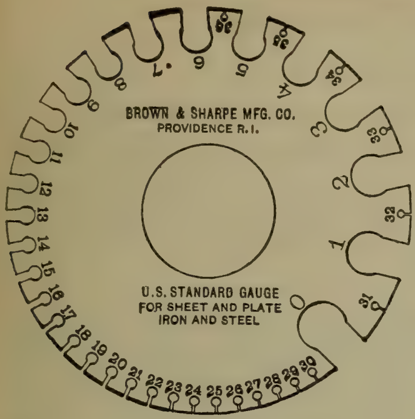


Fig. 2085.

U. S. STANDARD GAUGE.

This Gauge is 3¼ inches in diameter and about ⅛ inch thick. The Gauge numbers run from 0 to 36, and are those of the U. S. Standard Gauge, for Sheet and Plate Iron and Steel; adopted by Congress March 3, 1893.

Price $2.50

U. S. STANDARD GAUGE FOR SHEET AND PLATE IRON AND STEEL.

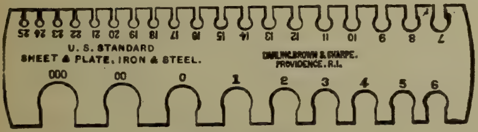


Fig. 2086.

Cut is about ⅓ size.

Sizes 000 to 25.

Price $2.50

ENGLISH OR BIRMINGHAM GAUGES.

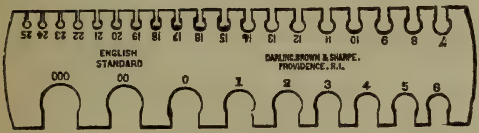


Fig. 2087.

For Sheet and Plate Iron and Steel.

Cut is about ⅓ size.

Sizes 000 to 25 . . . $2.50

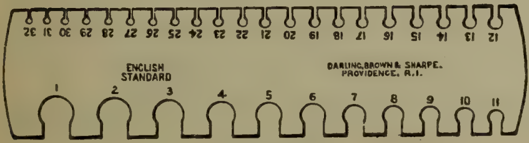


Fig. 2088,

Cut about ⅓ size.

Sizes 1 to 32 . . . $3.00

POCKET SCREW AND WIRE GAUGE.

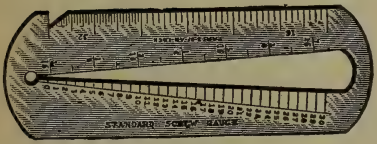


Fig. 2089.
Front Side.

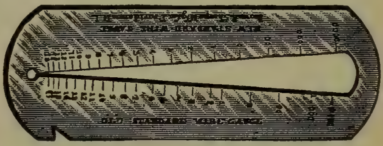


Fig. 2089.
Back Side.

Cuts ½ Size.

Price $2.50

"KEYSTONE" CONNECTING CHAIN LINKS.

DROP FORGED FROM OPEN HEARTH STEEL.

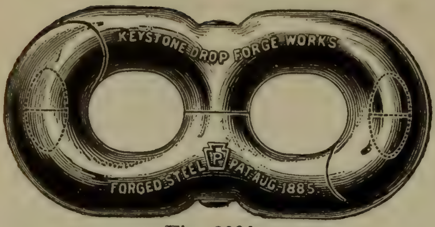


Fig. 2090.
Closed.

They have been proven by numerous tests to be as strong as a solid welded chain link of corresponding size, and being made of steel, in place of iron, they are in point of fact the strongest link of the chain in which they are used.

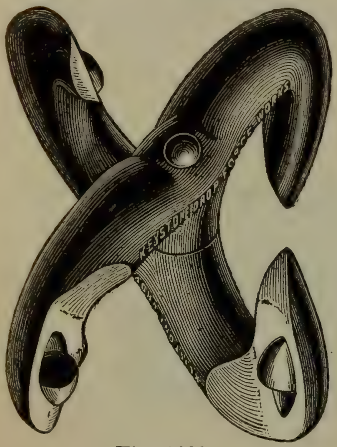


Fig. 2090.
Open.

They can be applied in a moment without the use of any tool, to shorten, lengthen, repair, or make chains, or as a substitute for shackles, "sister-hooks," snap-hooks, or in any situation where loose metallic connections are required. They cannot by any possibility work loose, open, or drop out while in use.

They are largely used by steam and electric railroads, engineers, miners, lumbermen, shippers, etc., and for hoists, cranes, elevators, conveyers, fire engines—in fact their serviceable field is only limited by the use of chains, where their immense saving of time and labor is instantly recognizable.

A FEW "POINTERS."

Railroads by carrying the Keystone Link in their car repair kits can permanently mend a broken brake-chain in a moment and thus avoid the delay caused by sending a car to the repair shops. The Link is used by the United States Government in its artillery, naval and wagon train service, and by various municipalities in connection with their fire and police patrol systems, and it will be found of special value to the teamster. In logging, where brake and trace chains are so constantly requiring the repairs that are inaccessible, the "Keystone Link" has proved to be invaluable.

PRICE LIST.

Size, inches	$\frac{1}{4}$	$\frac{5}{16}$	$\frac{3}{8}$	$\frac{7}{16}$	$\frac{1}{2}$	$\frac{5}{8}$	$\frac{3}{4}$	1
Price per dozen	\$2.00	2.25	2.50	3.25	4.00	7.50	10.00	15.00

Subject to Discount.

Sizes up to $\frac{1}{2}$ inch packed one dozen in a box, or shipped in bulk if desired.

The sizes given in list are diameters, same as for regular chain.

As everyone knows, "a chain is as only as strong as its weakest link." You would not buy a malleable or cast iron chain—why then repair a wrought chain with a cast link, thereby definitely fixing its point of failure?

INDEX.

A

Page.
Adjusters, Torpedo 48
Adzes, Carpenter 256
“ Railroad 256
Alcohol, Wood 518
Ammonia, Chloride of 619
Angular Bit Stock 267
“ Ratchet 573
Antimonial Lead 523
Antimony 523
Anvils 182, 573
Arbors, Grindstone 223, 224
“ Shell Reamer 75
Arresters, Lightning 616
Arch Pipes 339
Arm Braces 613
Arms, Cross 613
Asbestos Building Felt 511
“ Cord 512
“ Mill Board 511
“ Packing 513
“ Wick 513
Ash Cans 129, 130
Auger Bits 275, 276
Augers, Boring Machine 270
“ Carpenter's Nut 275
“ Machine 270, 271
“ Millwright 274
“ Rafting 274
“ Ship 272, 273
“ Trenail 273
Awls, Belt 441, 442
Axes 253
“ Broad 252
“ Handled 253
“ Stone 247
Axle Grease 327

B

Babbitt 523
Back Flaps 288
Baggage Barrows 457
“ Wagons 457
Bags, Tool 624
Band Saws 587, 588
Bands, Hose 351
Barge Spikes 32
Barrows, Baggage 457
“ Brick 454
“ Canal 452
“ Charcoal 456
“ Coal 455, 456
“ Coke 456
“ Dirt 456
“ Foundry 454, 456
“ Furnace 454
“ Mining 455, 456
“ Pig Metal 454
“ Sawdust 452
“ Stable 452

Page.
Barrows, Steel 454, 455
“ Steel Tray 453
“ Tanbark 452
“ Tubular 456
“ Two Wheel 456
Bars, Boring 169
“ Claw 241
“ Crow 625
“ Digging 625
“ Lining 242, 625
“ Pinch 242
“ Screen 41
“ Splice 33
“ Tamping 242, 625
Basins 532
Battery Coppers 619
“ Dry 620
“ Jars 619
“ Testing Lamp 450
“ Zincs 619
Beam Clamps 612
“ Recording 237
Beams, Scale 236
“ Weigh Masters' 237
Bearings, Journal 52
Beaters, Car Seat 518
Bellows, Blacksmith 182
“ Hand 182
“ Foundry 182
Bell Cord 517
“ “ Couplings 517
Belt Awls 441, 442
“ Borers 442
“ Clamps 438
“ Couplings 445
“ Dressing 327
“ Hooks 440
“ Lacing 439, 440
“ Punches 441
“ Studs 441
Belting, Electric 439
“ Leather 439
“ Link 437
“ Round 439
“ Rubber 437, 438
“ Waterproof 438
Benders, Rail 238
Bends, One-Eighth 350
“ One-Quarter 350, 372
“ One-Sixteenth 350
“ Return Brass 371
“ “ C. I. 373, 375
“ “ Galvanized 375, 377
“ “ Malleable 367, 368
“ “ Wrought Iron 372
Bibbs, Compression 394
“ Self-Closing 394
Bit Holder 268
“ Stock, Angular 267
Bits, Auger 275, 276

Page.
Bits, Car 273, 274
" Gimlet 276
" Machine 271
" Screw Driver 265
" Ship Auger 272, 273
Blacksmith's Bellows 182
" Chisels 187
" Forges 190
" Hand Blowers 191
" " Hammers 245
" Mandrels 183
" Screw Plates 96
" Sledges 244, 245
" Taps 81
" Tongs 184
" Tools 182 to 187
Blast Gate 195
Blasting Caps 450
" Machines 450
Blind Lift 300
" Pull 300
Block Pillow 610
" Tin 523
Blocks, Cargo 138
" Duplex 148
" Gin 144
" Guy 139
" Hoisting 138
" Iron Strapped 133, 134, 138
" Mortise 137
" Pulley 150
" Snatch 142, 143
" Steel 136
" Sure Grip 146
" Swage 183
" Tackle 135, 136, 137, 146
" Triplex 147
" Weston 150
" Wire Rope 140, 141, 142
" Wrecking 138
" Wrought Iron 139, 140
" Yale 147, 148
Blow Torches 449
Blowers, Blacksmith's 191, 192
" Hand 191, 192
" Flue 534
" Pressure 196, 197
" Roots 197
Blue Stone 619
Boat, Spikes 33
Bobs, Plumb 281
Boiler Tubes 340
" Plates 44
Boilers, Horizontal 555, 556, 557
" Portable 553, 554
" Tubular 556
" Vertical 552
Bolt Clippers 103
" Copper 334
" Cutters 589, 590
" Dies 83
" Ends 6
" Heads, Dimensions of 4
Bolts, Barrel 284, 285
" Belt 8
" Blank 5
" " Weight of 5
" Blind Car 300
" Bridge 7
" Carriage 10
" " Weight of 9
" Deck 2, 3
" Drift 33
" Elevator 8
" Extra Lengths of Thread 3
" Extra Nuts on Bolts 3
" Hanger 14
" Joint 2, 3

Page.
Bolts, Machine 2, 3
" Patch 12
" Plow 6
" Roof 7
" Spring 285
" Stay 12
" Stove 11
" Structural 7
" Stud 8, 9
" Tap 22
" Tire 10
" Track 32
" Weight of 4
Bolster Springs 51
Bon-Ami 520
Bone Black 520
Borax 522
Boring Bars 169
" Machine 270
" " Augers 270
Boxes, Wall 612
Braces, Barber's 267, 268
" Cross Arm 613
" Fray's 269
" Ratchet 267, 268, 269
Brackets, Lamp 500, 501
" Shelf 281
" Wall 612
" Wood 613
Branches Y, Cast Iron 349
" Malleable 367, 368
Branding Letters 201
" Figures 201
Brass Fittings 370, 371, 372
" Rod 335
" Sheet 335
" Tubing 332
" Unions 371
" Wire 335
Brasses, Car 52
Breast Drills 574
Brick Barrows 454
" Spades 179
Bridge Clamps 570
" Lamp 499
Bronze Rod 335
Brooms, Bass 112
" Brush 112
" Coir 112
" Floor 119
" Rattan 111, 112
" Steel 111
" Switch 112
" Upright 112
" Whisk 112
" Yacht 112
Brushes, Casting 111
" Dusting 118
" Flue 534
" Foundry 111
" Glue 521
" Horse 120
" Kalsomine 116
" Marking 117
" Paint 114, 115
" Roof 117
" Sash 115
" Scrub 112, 113
" Stencil 117
" Tar 117
" Tube 533, 534
" Wall 115
" Whitewash 117
" Varnish 114
Bucket Ears 522
Buckets, Fire 125
" Galvanized 125
" Ice Water 124

Page.
Buckets, Water.......................... 124
Bunting 522
Burlaps 518
Burners, Banner 473
" Beacon 476
" Brass Torch 479
" Callender 478
" Climax 473
" Convex 477
" Dual 474
" Extras for 483
" Heavy Hinge 478
" Lantern 476, 477, 478
" Moehring 473
" Niagara 475
" Oxford 475
" Railroad 474
" Reflector Lamp 477
" Screw 478
" Simplex 476
" Steamboat 474
" Sun Hinge 475
" Tubular No 9......................... 472
" Venus 478
Bush Hooks 254
Bushings, Brass 370, 372
" Cast Iron 375
" Galvanized 377
" Malleable 369
" Pulley 603
Butts, Car Door 313
" Loose Pin 290, 291
" Narrow 289
" Reversible 292
Buttons, Tufting........................ 472

C

Cab Lamps 507
Cable Coating 154
Can Screws 509
Cans, Ash 129, 130
" Oil 103, 130, 131, 132
" Storing 132
" Tallow 525
" Transportation 132
" Waste 130
Cant Hooks 463
" " Clasps 463
" Pikes 463
Cap Screws 20, 21, 22
Caps, Blasting 450
" Brass 370, 372
" Cast Iron 349, 375
" Fusible 535
" Galvanized 377
" Malleable 368
Car Bits 273, 274
" Blind Bolts 300
" " Lifts 300
" " Pulls 300
" Brasses 52
" Door Locks.......314, 315, 316, 317, 318
" Door Sheaves 284
" Heater Fittings 373
" Pusher 52
" Replacer 239
" Seat Beaters 518
" Washers 113
" Window Lifts 300
Carpet Tacks 108
Carriage Bolts 10
" Dusters 119
Carriers, Water 132
Cars, Contractors 469
" Dump 469
Carts, Dump............................. 468
" Hose 363, 364, 365, 366

Page.
Casting Brushes 111
Castor Oil 518
Cellar Box Pins 109
Chain, Brake 36
" Coil 36
" Crane 36
" Dredge 36
" Hoists 148, 149, 150
" Link 630
" Pipe Wrench 209
" Stud Link 36
Chalk 522
Chamois Skins 110
Chimneys, Car Lamp 487
" Head Light...484, 485, 486, 487
" Lamp 485, 486, 487, 488
" Magnum 484
" Mica 487
" Postal Car 488
" Student 488
" Welsbach 488
Chisels, Blacksmith's................... 187
" Cape 187
" Hand Chipping 187
" Track 240
Chloride of Ammonia 619
Chucks, Car Wheel 561
" Drill 559, 560
" Independent 566
" Lathe ....561 to 568
" Planer 586
Clamps, Beam 612
" Belt 438
" Boiler 571
" Bridge 570
" Drop Forged 571
" Eccentric 624
" Malleable Iron 570
" Splicing 621
" Wire Rope 166
Clasps, Peavey 463
Claw Bars 241
Clay Picks 242, 243
Cleaner, Tube 535
Climbers 625
Clips, Wire Rope 165
Clippers, Bolt 103
" Rivet 103
Cloth Wire 49, 50
Clocks, Locomotive 416
" Marine 416
Coach Screws 13
" " Double-End 14
" " with Pipe Thread 14
" " Weight of 14
Coal Hods 129
" Maul 244
" Picks 244
" Scoops 171
" Tar 520
" Tar Products 511
" Wedge 244
Coating, Cable 154
" Roof 511
Cocks, Compresssion 394
" Gauge 394
" Service 393
" Steam 393
" Steam Guage 412
Coke Forks 255
Collars, Lamp 480
" Reducing 480
" Shafting 596
Compasses 263
Composition, Polishing 521
Conductor's Lanterns 494, 495
" Punches.........443, 444, 445
Cones, Porcelain 481

Page.
Connecting Chain Link 630
Cooler Stands 123
Coolers, Water 121, 122, 123
Copper Bolt 334
“ Ferrules 341
“ Floats 406
“ Caskets 510
“ Ingot 523
“ Rivets 35
“ “ and Burrs 35
“ Rods 334
“ Sheet 334
“ Sheet, Weight of 333
“ Sulphate of.... 619
“ Tacks 108
“ Tubing 331
“ Wire 335, 336
Coppers, Battery 619
“ Soldering 523
Copying Presses 321, 322, 323
“ Press Stands 323
Cord, Asbestos 512
“ Bell 517
“ Engine 517
“ Signal 517
“ Trolley 517
Core Wash.... 328
Cotters, Spring 109
Cotton, Mops 112
“ Spun 522
Counters, Revolution 416
Countershafts 195, 228, 230, 577
Couplings, Bell Cord 517
“ Belt 445
“ Brass 370, 372
“ Cast Iron 373
“ Hose 358, 359
“ Malleable 367, 369
“ Malleable, R. & L.... 368
“ Shafting 594, 595, 596
“ Wrought Iron 372, 373
Crabs, Hoisting 145
Cranes, Traveling 150
Crayons 324, 522
Creaser 185
Cross Arms 613
“ “ Braces 613
Crosses, Brass 370, 371, 372
“ Cast Iron 350-372, 373, 374
“ Galvanized 377
“ Hydraulic 372
“ Malleable 368, 369
Crucibles 198
Cups, Drinking 125
“ Crank Pin 398
“ Glass Oil 397, 398
“ Grease 395
“ Guide 396
“ Locomotive 395
“ Oil 395
“ Side Rod 396
Curled Hair.... 519
Cuspidors 126
Cutters, Pipe 207, 208
“ Belt 441
“ Lacing 445
“ Washer 445

D

Dead Man 626
Die Holders 84, 87
“ Stocks 97, 98, 99, 100
“ “ Forbes 591, 592
Dies, Solid Bolt 83
“ Pipe 97, 98, 99, 100
Differential Pulley Blocks.....150
Dippers 125

Page.
Discs, Jenkins Bros. 512
Dividers 263
Dogs, Clamp 569
“ Die 569
“ Lathe 569
Dolly Drill Tools.... 186
“ Timber 462
Door Checks 301, 302
“ Handles 303
“ Hangers 283
“ Knobs 298, 312
“ Pulls 303
“ Sheaves 284
“ Springs 301, 302
“ Track 283
“ Trimmings 283
Ditching Spades 179
Drain Spades 179
Draft Springs 51
Drag Scrapers 464
Draw Screws 199
Drill Chucks 559, 560
“ Sleeves 73
“ Sockets 73
Drilling Machines....575 to 577
“ Machine Vise 577
Drills, Angular Ratchet 573
“ Bit-Brace 72
“ Blacksmiths' 70
“ Boiler Ratchet 572
“ Breast 574
“ Fluted S't Sh'k.... 71
“ Hand 574
“ Ratchet 71, 571, 572, 573
“ “ Packer 572
“ “ Renshaw 571
“ Track 239
“ Twist 69, 70, 71
“ “ Sets of 74
“ Upright ....578, to 582
“ Wire Gauge 71
“ Wood Boring 72
Drinking Cups 125
Drip Pans 528
Dry Pipes 339
Dryer, Japan 329
Duck Cotton 519
“ Enameled 519
Dump Cars 469
“ Carts 468
Dusters, Carriage 119
“ Factory 118
“ Feather 119
“ Mill 118
“ Painters' 118
“ Turkey 119
Dusting Brushes 118

E

Ears, Bucket 522
Ejectors, American 425
“ Hancock 424
“ H. D. 425
Elbows, Brass, ...370, 371, 372
“ “ R. & L. 371
“ “ 45 deg. 371
“ “ Reducing 371
“ “ Street 370
“ Cast Iron 373, 374
“ “ 45 deg.....373, 374
“ “ Pitched 374
“ “ R. & L.....373, 374
“ “ Reducing..373, 374, 377
“ “ Side Outlet.... 369
“ “ Street 368
“ Galvanized 377
“ “ 45 deg. 377
“ “ Reducing 377

Page.
Elbows, Hydraulic.......... 372
" " 45 deg. 372
" Malleable 368, 369
" " Female 369
" " Male 369
" " R. & L. 368
" " 45 deg. 368
Electric Fuses 451
Elevator Bolts 8
" Sheaves 168
Emery 227
" Cloth 224
" Grinding Machines ...228, 229, 230
" Paper 224
" Wheels 233
Engine Bell Cord.......... 517
" Governors 536, 537
Engine and Boiler Combined.538, 543, 544
Engines, Hoisting ....545 to 551
" Horizontal 539, 540, 541
" Vertical 542, 543, 544
Engineers' Fillers 102, 525
" Hammers 245, 246
" Oiler Sets 102
Erasive Rubber 326
Escutcheon Pins 332
Escutcheons, Car Door 313
" Plate 312
" Wrought Metal 312
Exhaust Heads 406
Expanders, Tube 533
Expanding Screws 480
Express Wagons 457, 458
Extension Bit Holder 268

F

Face Plate Jaws 568
Facings, Founders' 328
" Plumbago 328
Factory Dusters 118
Fastenings, Wire Rope 163, 164, 165
Faucets, Telegraph 394
Feather Dusters 119
Feeder Screws 479
Felloe Web Saws 256
Felt Asbestos, Building 511
" Hair 511
" Tarred Slaters 511
Ferrules, Copper 341
Fetter Drive Screws.......... 13
Figures, Branding 201
" Pattern 200, 201
" Steel 202
Files 225, 226, 227
" Stubs 225
Fillers, Engineers' 102, 525
Fillets, Leather 199
" Metallic.......... 199
Filters, Water 121
Fire Bed 195
" Buckets 125
" Hydrants 434
" Pails 124
" Shovels 179
Firemans' Lanterns 497
Fish Plates 33
" " No. per mile 33
Fittings, Brass..........370, 371, 372
" Cast Iron ....373 to 376
" " " Pipe 350
" Car Heater 373
" Galvanized 377
" Hydraulic 372
" Malleable ....367 to 370
" Spiral Pipe..........346, 347, 348
Flags, Signal.......... 522

Page.
Flange, Unions..........373, 377
" " Gal'd 377
" " Hydraulic.......... 372
Flanges, Cast Iron.......... 376
" Gal'd 376
Flat Keys.......... 109
Flatters 185
Floats, Copper 406
Flue Blowers.......... 534
" Brushes.......... 534
" Cleaners.......... 535
" Scrapers 534
Follower Plates.......... 31
Forges, Blacksmith.. 190
" Boiler Makers'.......... 188
" Down Draft..........193, 194
" Machinists' 190
" Portable..........188 to 192
" Power..........190, 192
" Riveters' 189
" Stationary Blast..........189, 193, 194
" Tool Makers' 189
Forks, Ballast.......... 255
" Coke.......... 255
" Rail.......... 240
" Stone.......... 255
" Tanners'.......... 255
Founders' Facings 328
" Core Wash.......... 328
Foundry Brushes.......... 111
Frames, Hack Saw.......... 257
" Grindstone.......... 223
" Wall.......... 612
Fresnels and Sections.......... 508
Fullers 185
Furnace Scoops.......... 171
Fuse Protectors 615
" Renewals.......... 615
" Tape.......... 450
Fuses, Blasting.......... 451
Fusees, R. R. Signals.......... 48
Fusible Caps.......... 535
" Plugs 535

G

Gas Pliers..........208
Gaskets, Copper.......... 510
" Eclipse.......... 509
" Rubber.......... 509
" Vulcabeston.......... 510
Gate Blast.......... 195
" Latches.......... 306
Gauge Air Brake.......... 415
" Cocks.......... 394
" Glasses.......... 413
" Lamps.......... 507
" Locomotive.......... 414
" Recording 417
" Screw 629
" Track 237
Gauges, Ammonia 416
" Hydraulic 415
" Sheet Metal 629
" Steam 414
" Test 416
" Twist Drill 628
" Water 413
" Water Pressure.......... 415
" Wire 628
" Vacuum 415
Giant Sounders 617
Gimlet Bits 276
Gimp Tacks 108
Gin Blocks 144
Glass Insulators 614
" Reflectors 508

Page
Glass, Tubes 413
" Window 350
Glasses, Level 280
" Lubricator 413
Globes, Cab Lamp 507
" Dimensions of 483
" Hanging Lamp 482
" Lake & River 481
" Lantern 481, 482, 483
" Street Lamp 482
Glue 521
" Brushes 521
" Liquid 520
" Pots 521
Gong Bells 409
Gongs, Locomotive 409
" Trip 409
Governors, Engine 536, 537
" Pump 401
Graders, Surface 466
Graphite 328
" Grease 326
" Paint 329
" Pipe Compound 327
Grates, Water 339
Grease, Axle 327
" Cups 395
" Curve 326
" Graphite 326
Grinders, Tool 231, 232
Grinding Machines 228, 229, 230
Grindstone, Arbors 223, 224
" Frames 223
" Shafts 223, 224
Grindstones 224
" Mounted 221, 222
Grip, Lineman's 624
Grub Hoes 254
Gum-Oleo 154
Guy Blocks 139
Guys 558

H

Hack Saw Blades 257
" " Frames 257
Hair, Curled 519
" Felt 511
Hammers, Blacksmith 245
" Boilermakers' 247
" Carpenters' 251
" Capping 247
" Cat Head 186
" Chipping 248
" Drilling 244
" Engineers' 245, 246
" Machinists' 249, 250
" Masons' Stone 246
" Nail 251
" Napping 244
" Riveting 248
" Set 185, 186
" Sorting 247
" Stone 246
" Striking 244
Hand Drills 574
Handles, Adze 262
" Axe 262
" Cross Cut Saw 261
" Door 303
" File 263
" Hammer 262, 263
" Hatchet 263
" Pick 262
" Saw 261
" Shovel 263
" Sledge 262
" Soldering 263

Page
Hanger Bolts 14
Hangers, Drop 605, 606, 607
" Post 608
" Track Door 283
Hanging Lamp Globes 482
" Lamps 498, 499
Hardie 185
Harness, Leather 439
Hasps, Hinge 288
" and Staples 288
Hatchets, Broad 252
" Claw 252
" Half 251
" Lath 251
" Shingling 251
Hawsers, Steel 162
Heading Tools 187
Head Lights, Electric 504, 505, 506
" Locomotive 502, 503, 504
" Motor 506
Heads, Exhaust 406
" Whitewash 116
Hinge Hasps 288
Hinges, Screw Hook 287
" Strap 287
" T 286
Hods, Coal 129
Hoes, Grub 254
Hoists, Chain 148, 149, 150
Hoisting Blocks .... 133 to 150
" Crabs 145
" Engines .... 545 to 551
" Sheaves 167
Hook and Socket 164
" " Thimble 164
Hooks, Baggage Car 282
" Bush 254
" Cant 463
" Coat 282
" Hat 282
" Peavey 463
" Pull Down 284
" Wire Rope 163, 164
Hoops, Butted 479, 480
" Lantern 480
" Navy 480
" Solid 480
Hoppers, R. R. 530, 531
Horse Brushes 120
Hose, Air Brake 352
" " Drill 352
" Bands 351
" Brewer's 353
" Carts .... 363 to 366
" Cotton Fire 354, 355
" Cotton Mill 354
" Corrugated 352
" Couplings 358, 359
" Engine 353
" Fire 356
" Garden 354
" Hydrant 353
" Linen Fire 358
" Marline Wound 352
" Mining 358
" Nipples 359
" Oil 353
" Pipes 359, 360
" Racks 361
" Reels 362
" Steam 352, 353
" Suction 357
" Tank 358
" Tanners' 353
" Tender 352
" Water 353
" Wire Wound 352
" Underwriters' 354, 356

Page.
Hydrants, Fire 434
" Yard 433
Hydraulic Jacks 65, 66, 67, 68

I

Ice Water Buckets 124
" " Jars 124
Increasers 349
Indicator, Jennings' 411
" Speed 446
Illuminating Torches 449
Injectors, Loftus 421
" Metropolitan 422, 423
" U. S. 423
Inspector's Lamp 499
" Pencils 324
Inspirator, Hancock 418, 419, 420
Insulator Pins 613
Insulators, Glass 614
Iron, Bar 39
" " Classification of 39
" " Weight of 40, 41
" Corrugated 44
" Jacket 45
" Planished 45
" " Sizes of 45
" " Weight of 45
" Sheet Black 43, 44
" " Galvanized 42
" " Weight of 43
Indrubestos Packing 513

J

Jacket, Iron 45
Jacks, Bridge 61
" Builders' 63
" Car 55
" Car, Box 53, 55, 56, 68
" Carpenters' 63
" Dudgeon 66, 67, 68
" Maxon 55, 57, 58
" Norton 61, 62, 63, 64
" Ratchet 63
" Reliance 65
" Repairs 56, 59, 60
" Screw 53
" Sure Drop 56
" Track 54, 56
" Traversing 64, 68
" Verona 54
Jars, Battery 619
" Ice Water 124
Jaws, Face Plate 568
Jet Pumps 424
Jim Crow 238
Joints, Spiral Riveted 345
" Splice 33
Journal Bearings 52

K

Kalsomine Brushes 116
Keyseats 593
Keys, Flat Riveted 109
" Spring 110
" Switch Lock 296, 297
" Telegraph 617
Knob Latch Sets 312
Knobs, Car Door 298
" Door 296, 312

L

Lace Leather 439
" " Cutter 445
" Tacks 108

Page.
Lacing, Cut 439
" Cutters 441
" Steel 440
Lag Screws 13
" " Weight of 14
Lamp Black 328
" Collars 480
" Wicks 489
Lamps, Battery Testing 450
" Bracket 501
" Bridge 499
" Cab 507
" Gauge 507
" Hanging 498
" Inspectors 499
" Mast Head 496
" Pole 496
" Station 498, 499
" Street 500, 501
" Target 496
" Track Walkers' 499
Lantern Burners 476, 477, 483
" Globes 481, 482, 483
" Hoops 480
Lanterns, Conductors' 494, 495
" Extra for 483
" Firemen's 497
" Lake and River 495, 496
" Railroad 492, 493
" Tubular 490, 491
Latches, Horizontal, Rim Night 307, 308
" " " Knob 307
" Mortise Knob 311
" Saloon 298, 299
" Secret Gate 306
Lathe Chucks 561 to 568
" Dogs 569
Lathes, Engine 583
" Hand 584
Lawn Sprinklers 359
Lead 523
" Antimonial 523
" White 329
Leather Belting 438, 439
" Covered Nails 472
" Harness 439
" Link Belting 437
Leggins, Wading 120
Lenses, Bull's Eye 508
" Semaphore 508
Letters, Branding 201
" Pattern 200, 201
" Steel 202
Level Glasses 280
Levels 280, 281
Leveller, Road 466
Lifters 199
Lightning Arresters 616
Linemen's Tools 624, 625, 626, 627
Lining Bars 242, 625
Link, Leather Belting 437
Links, Chain Connecting 630
Linseed Oil 518
Locknuts, Brass 370, 372
" Cast Iron 375
" Galvanized 377
" Malleable 369
Locks, Car Door 314 to 318
" " Window 301
" Horizontal Rim. Dead 306
" " " Knob 305
" Mortise Dead 311
" " Knob 310, 320
" Nut 31
" Rapid Mortise 319
" Rim Sets 311
" Saloon 298
" Switch 296, 297

Page.
Locks, Upright, Rim Dead ... 309
" " " Knob ... 304, 305
" Wr't Steel, Mortise Knob ... 309
Locomotive Clocks ... 416
" Coal Picks ... 243
" Cups ... 395
" Gauges ... 414
" Gongs ... 409
" Injectors ... 418, 419, 420
" Mufflers ... 408
" Oilers ... 526
" Packing ... 517
" Pop Valves ... 408, 409
" Scoops ... 171
" Spark Plate ... 49
" Springs ... 51
" Taper Reamers ... 73
" Torches ... 535
" Wire Netting ... 49
Lubricator Glasses ... 413
Lubricators, Brass ... 394
Lugs, Spiral Pipe ... 344
Lumber Buggy ... 462
" Pencils ... 324
" Trucks ... 462

M

Machine Bits ... 271
" Bolts ... 2, 3
" Nut Taps ... 80
" Screw Taps ... 79
" Screws ... 17
" Screw Nuts ... 18
Machines, Band Saw ... 587, 588
" Blasting ... 450
" Boring ... 270
" Cylinder Boring ... 169
" Drilling ... 573, 575, 576, 577
" Grinding ... 228, 229, 230
" Metal Sawing ... 584
" Pipe Threading ... 591, 592
" Polishing ... 228, 229, 230
" Valve Seat ... 169
Machinists' Hammers ... 249, 250
" Screw Plates ... 95, 96
Magnolia Metal ... 523
Malleable Iron Fittings ... 367, 368, 369
" " Oilers ... 102
Mandrels, Blacksmiths' ... 183
Marine Clocks ... 416
Marking Brushes ... 117
Mats ... 127, 128
" Cuspidor ... 127
Matting, Corrugated ... 128
" Rubber ... 127, 128
Mattocks ... 255
Mauls, Coal ... 244
" Spike ... 240
Measures ... 525
Measuring Tapes ... 278, 279
Metal Workers' Crayons ... 324
" Sawing Machines ... 584
Metals ... 523
Millboard ... 511
Mill Dusters ... 118
Millwright Augers ... 274
Mineral Wool ... 511
Miners' Picks ... 243
Mop Sticks ... 112
Mops, Cotton ... 112
Moss ... 519
Moulders' Shovels ... 176
Muffler, Locomotive ... 408

N

Nail Hammers ... 251
" Pullers ... 105

Page.
Nails, Cut ... 105
" Finishing ... 106
" Leather Covered ... 472
" Lining ... 106
" Wire ... 104, 105
Napping Hammers ... 244
Nipple Holders ... 591
Nipples, Brass ... 370
" Galvanized ... 378
" Hose ... 356, 359
" Hose Suction ... 356
" Wrought Iron ... 378
Nut Locks ... 31
Nuts, Case Hardened ... 30
" C. T. and R. ... 26
" Cold Punched ... 26, 27, 29
" Finished ... 30
" Hot Pressed ... 25, 26, 28
" Machine Screw ... 18
" Narrow Gauge ... 30
" Sleeve ... 23
" Stove Bolt ... 11
" Tire Bolt ... 11

O

Oakum ... 520
Offsets, Cast Iron ... 375
" Galvanized ... 377
Operators' Pencils ... 324
Oil Cans ... 101, 102, 103, 130, 131, 132
" Castor ... 518
" Cups ... 395, 396, 397, 398
" Feeders ... 525
" Fillers ... 102, 525
" Hoops ... 479
" Linseed ... 518
" Pump ... 328
" Rosin ... 520
Oiler Screws ... 479
" Spouts ... 526
" Wick ... 396
Oilers, Chace ... 103
" Engineers' Sets ... 102
" Locomotive ... 526
" Malleable Iron ... 102
" Steel, Copper Plated ... 101
" Railroad ... 101, 526
" Paragon ... 103

P

Packing, Asbestos ... 513
" Ajax ... 514
" Climax ... 514
" Cloth Insertion ... 516
" Diagonal ... 514
" Diamond ... 514
" Eagle ... 514
" Economy ... 514
" Empire ... 514
" Eureka ... 514
" Garlock ... 514
" Globe ... 514
" Gum Core ... 514
" Hemp ... 514
" Hercules ... 515
" Honest John ... 515
" Hydraulic ... 516
" Indrubestos ... 513
" Jenkins ... 512
" Locomotive ... 517
" Millers ... 516
" Peerless ... 515
" Rainbow ... 514
" Rings ... 512
" Round Piston ... 516
" Rubber Back ... 516
Seldons ... 516

Page.
Packing, Sheet................512, 514, 516
“ Silver Lake................. 517
“ Square, Flax 514
“ Square, Piston 516
“ Tucks 516
“ Usudurian 514
“ Vulcabeston 512
“ Vulcanized 513
Padlocks......................292 to 297
Pails, Cement................. 125
“ Indurated Fibre............. 124
“ “ Fire 124
“ Galvanized 125
“ Mortar 125
Paint Asphaltum............... 329
“ Brushes 115
“ Graphite 329
“ Roof 511
Painters' Dusters............. 118
Pans, Drip 528
“ Soldering 523
Pants, Wading................. 120
Paste, Polishing.............. 520
Patch Bolts................... 12
Peavey Clasps................. 463
“ Hooks 463
“ Pikes 463
Pearline 520
Pedestal, Self-Oiling......... 609
Pencils, Artists.............. 324
“ Blue 325
“ Inspectors' 324
“ Lumber 324
“ Office 325
“ Operators' 324
“ Red 325
Picks, Clay...................242, 243
“ Coal 244
“ Contractors' 243
“ Drifting 243
“ Locomotive 243
“ Mattock 255
“ Miners' 243
“ Surface 243
“ Tamping 242
Pike Poles.................... 626
Pikes, Cant................... 463
“ Peavey 463
Pillow Blocks................. 610
Pinch Bars.................... 242
Pine Tar...................... 520
Pins, Cellar Box.............. 109
“ Escutcheon 332
“ Insulator 613
Pipe Air......................342 to 345
“ Blower 346
“ Cast Iron................... 349
“ Compound 327
“ Covering 337
“ Cutters 207, 208
“ Dies 97, 98, 99, 100
“ Fittings, Brass 370, 371, 372
“ “ Cast Iron.................373 to 376
“ “ Malleable 367, 368
“ Gas 338
“ Hobs 82
“ Joints 345
“ Reamers 82
“ Spiral Riveted..............342 to 346
“ Steam 338
“ Stocks 97, 98, 99, 100
“ Swivels 23
“ Taps 82
“ Threading Machines..........591, 592
“ Tongs, Common............... 208
“ “ Brown's 208
“ Vises 210, 211, 212
“ Water 338

Page.
Pipe Wrenches.................207, 208, 209
“ Wrought Iron................338, 339
Pipes, Arch................... 339
“ Dry 339
“ Floor 528
“ Hose 359, 360
“ Urinal 528
Pitch 520
“ Roofing 511
Planer Chucks 586
Plaster Paris................. 520
Plate Boiler.................. 44
Plates, Base.................. 611
“ Follower.................... 31
“ Rapping 199
“ Spark 49
Play Pipes.................... 360
Pliers, Burner................ 208
“ End Cutting................. 623
“ Diagonal Cutting............ 623
“ Flat Hose................... 623
“ Gas......................... 208
“ Insulated 621
“ Round Nose.................. 623
“ Side Cutting................ 622
“ Telegraph 623
Plows, Grading 466, 467
“ Parts of.................... 467
Plugs, Brass 370, 372
“ Cast Iron 349, 373, 376
“ Fusible 535
“ Galvanized 377
“ Tie 31
Plumb Bobs 281
Plumbago 328
Plumb and Level...............280, 281
Plush 519
Pole Tongs 627
Poles Double Support.......... 626
“ Pike 626
Polish Putz 520
Polishing Composition 521
Porous Cups 620
Pomade Putz 520
Pop Safety Valves 408, 409
Post Hole Diggers............. 625
Posts, Lamp................... 500
Pots, Water................... 132
Press, Seal................... 447
Presses, Copying 321, 322, 323
Pressure Blowers..............196, 197
“ Regulators ....399 to 404
Pritchel 187
Protectors, Fuse 615
Pull Down Hooks.............. 284
Pulley Bushings............... 603
Pulleys, Cast Iron............597 to 602
“ Clamp Hub................... 598
“ Split 597
“ Steel Rim ....597 to 602
“ Tight and Loose.............596, 603
“ Wood 603, 604
Pulls, Blind 300
“ Door 303
Pumice Stone 521
Pumps, Centrifugal 435, 436
“ Cistern 427
“ Diaphragm 430
“ Double Acting 431, 432
“ Excelsior 432
“ Force ....427 to 431
“ Governor 401
“ Graphite 328
“ Jet 424
“ Pitcher Spout 427
“ Regulator 402
“ Rotary Force (Hand)......... 432

Page.
Pumps, Rotary Force (Power)....... 435
" Steam Siphon.................. 426
" Suction ....427 to 431
" Test Gauge.................... 412
" Well 428
Punches Belt 441
" Blacksmiths' 187
" Conductors 443, 444, 445
" Hydraulic Head............. 52
" Oval 442
" Round 442
" Screw 52
" Ticket 443, 444, 445
" Track 240
Putz Polish............................. 520
" Pomade 520

Q

Quarry Sledges 246
" Tools 186
Quarter Bends, Wrt. Iron............. 372

R

Radiator, Steam 379, 380
" Valves 381, 382
" Water 380
Racks, Hose 361
Rafting Augers......................... 274
Rail Benders 238
" Forks 240
" Tongs 240
Railroad Hoppers 530, 531
" Lanterns 492, 493
" Oilers 101, 526
" Urinals 527
" Varnish 329
Rails, Flat Steel........................ 31
" Light "T" 31
Rapping Plates 199
Rasps 227
Ratchet, Angular 573
" Boiler 572
" Braces 267, 269
" Packer 572
" Railroad 572
" Renshaw 571
Rattan Brooms 111, 112
Reamers, Hand.......................... 74
" Locomotive Taper......... 73
" Pipe 82
" Rose Chucking............ 76
" Shell 75
" Taper 73
" " Drill Socket........ 73
" " Pin 73
Recording Gauge....................... 417
Reducers, Brass........................ 370
" Cast Iron...............349, 375
" Galvanized 377
" Malleable 367, 368, 369
Reducing Collars 480
" Valves 399, 400, 403
Reels, Hose............................. 362
" Pay Out.......................... 627
Reflectors, Glass....................... 508
" Nickel-Plated 508
Regulators.. ....399 to 404
Relay, Box.............................. 616
" Main Line........................ 616
" Pony 616
Return Bands, Brass..........370, 371, 372
" " Cast Iron..........373, 375
" " Galvanized 377
" " Malleable 368
" " Wr't Iron............. 372
Revolution Counter.................... 416
Rings, Vulcabeston.................... 512

Page.
Rivet Sets.............................. 446
Rivets, Boiler.......................... 34
" " Weight of............. 34
" Bridge 34
" Car 34
" Copper 35
" Iron 35
" Tank 34
Road Leveler........................... 466
" Scraper 465
Rock Drill Tools....................... 186
Rods, Brass 335
" Bronze 335
" Copper 334
" Gilding 335
Rollers Door Stay..................... 283
Roof Brushes.......................... 117
" Coating 511
" Paint 511
" Pitch 511
" Varnish 511
Roofing 511
" Materials 511
Rope, Manila 155
" " Hoisting 155, 156
" " Transmission 155
" " Weight of 155
" Wire ....156 to 162
" " Gal'd Strand.............. 162
" " Guy 159
" " Haulage 157
" " Hawsers 162
" " Plough Steel.............. 160
" " Rigging 159
" " Running 161
" " Tiller 159
" " Transmission 157
Ropes, Switching 161
" Wrecking 161
Rosin 520
" Oil 520
" Sized Sheathing 511
Rotten Stone 521
Rouge 521
Rubber Belting 437
" Erasers 326
" Gaskets 509
" Mats 128
" Tubing 451
" Valves 411
Rules, Box-wood 279

S

Safe Ends 339
Safety Valves 392, 408, 409, 410
" Water Column 410
Sal-Ammoniac 619
Saloon Latches 298, 299
" Locks 298
Sand Cloth 224
" Paper 224
Sapolio 520
Sash Pull Sockets...................... 284
" Tools 115
Saws Band......................260, 587, 588
" Circular 259
" Cross Cut....................... 260
" Felloe Web...................... 256
" Hack 257
" Hand 258
" Panel 258
" Rip 258
Scale Beam Recorder.................. 237
" Beams 236
Scales, Depot........................... 235
" Foundry 234
" Miners'......................... 235
" Platform....................... 234

Page.
Scales, Track 237
" Transportation 235
" Warehouse 235
" Wheelbarrow 234
Scoops, Ames 174
" Back Strap 180
" Cleveland Pattern 180
" Coal 171
" Dimensions of 178, 179
" Eastern Pattern 180
" Furnace 171
" Hollow Back 171
" Locomotive 171
" Philadelphia Pattern 180
" Saw Dust 180
Scrapers, Drag 464
" Tongue 465
" Tube 534
" Wheel 465
Screen Bars 41
Screw Driver Bits 265
" Drivers 264, 265, 266
" Gauge 629
" Jacks 53
" Plates ..... 84 to 100
Screws, Can 509
" Cap 20, 21, 22
" Coach 13
" " Double End 14
" " Pipe Thread 14
" " Weight of 14
" Draw 199
" Expanding 480
" Feeder 479
" Fetter Drive 13
" Lag 13
" Machine Brass 17
" " Iron 17
" Navy 480
" Oil 479
" Set 19, 22
" Skein 13
" Wood Brass 15
" " " N. P. 16
" " Bronze 15
" " Iron 15
" " " N. P. 16

Scrub Brushes 112, 113
Scythes, Bush 254
" Grass 254
" Snaths 253
" Weed 254

Seal Presses 447
Seals, Lead 447
Seats 470, 471
Semaphore Lenses 508
Separators, Steam 407
Service Cocks 393
Set Hammers 185, 186
" Screws 19
Sets Giant Combination 617
" Rivet 446
Shades, Porcelain 481
Shafting 593
Shafts, Grindstone 223
Shaper Vises 586
Shapers 585
Shears, Bench 524
" Hand 524
" Roofers 524
Sheathing 511
Sheave Lining 167
Sheaves, Derrick 166, 168
" Door 284
" Double Grooved 168
" Elevator 166, 168
" For Shaft 168

Page.
Sheaves, For Slope 168
" Hanging Door 284
" Hoisting 166, 167
" Solid Iron 166, 168
" Transmission 168
Sheet Brass 335
" Copper 334
" Iron 43, 44
" Steel 43, 44
Ship Auger Bits 273
" Augers 272, 273
" Stones 224

Shovels, Ames 173, 174
" Anthracite 178
" Back Strap 173, 174, 175
" Bituminous 175, 177, 178
" Cleveland Pattern 177
" Coke 178
" Dimensions of 178, 179
" Fire 179
" Hollow Back 175, 177, 178
" Moulders 176
" Pat. Plain Back 172, 173
" Plain Back 172, 174
" Railroad 170, 171
" Snow 181
" Socket 175
" Socket Strap 176
" Tamping 176
" Telegraph 181
Side Rod Cups 396
Sister Hooks 164
Skein Screws 13
Skids 458
Skins, Chamois 110
Sledges, Blacksmith 244, 245
" Quarry 246
" Stone 246
" Striking 244
Sleeve Nuts 23
Sleeves, C. I. 349
Smoke Stacks 558
Snatch Blocks 142, 143
Snaths 253
Snips 524
Snow Shovels 181
Soap, Babbit's 520
Socket Sleeves 73
Sockets, Closed 163, 166
" Drill 73
" Open 163, 166
" Sash Pull 284
" Suspension Bridge 166
" With Chain 166
" With Turnbuckle 166

Solder 523
Soldering Coppers 523
" Pans 523
Sole Plates 611
Sounder Giant 617
Sow 186

Spades, Brick 179
" Cleveland Pattern 177
" Ditching 179
" Drain 179
" Hollow Back 175
" Plain Back 170, 171, 172
" Post 179
" Socket Strap 176
Spark Plate 49
" Wire Cloth 49
Speed Indicator 446
Spike Mauls 240
" Puller 241
Spikes, Barge 32
" Boat 33
" Dock 33

Page.
Spikes, Frost ... 32
" Railroad ... 32
" Shimming ... 32
" Street R. R. ... 32
" Wharf ... 33
Spittoons ... 126
Splice Bars ... 33
" Joints ... 33
Splicing Clamps ... 621
Sponges ... 518
Spoons, Telegraph ... 181
Spreaders ... 186
Spring Cotters ... 109
" Keys ... 110
Springs, Bolster ... 51
" Draft ... 51
" Locomotive ... 51
" Tender ... 51
Sprinklers, Lawn ... 359
Spun Cotton ... 522
Squares, Iron ... 277
" Steel ... 277
Stacks, Smoke ... 558
Stair Treads ... 127
Stakes, Blacksmith ... 187
Standard Threads ... 77
Stands, Copying Press ... 323
" Emery Grinder ... 228
" Water Cooler ... 123
Stay Bolts ... 12
" Tubes ... 339
Steam Cocks ... 393
" Gauge Cocks ... 412
" Gauge Syphons ... 412
" Gauges ... 414
" Separators ... 407
" Traps ... 405
" Whistles ... 410
Steel, Bessemer ... 38
" Brooms ... 111
" Classification of ... 37, 38
" Figures ... 202
" Fire Box ... 44
" Flanges ... 44
" Hawsers ... 162
" Letters ... 202
" Mild ... 38
" Mushet ... 37
" Pins ... 613
" Tool ... 37
" Weight of ... 40, 42
" Wire ... 336
" Wool ... 511
Stencil Brushes ... 117
Sticks, Mop ... 112
Stocks and Dies ... 84 to 100
" Pipe ... 97, 98, 99 591, 592
Stone Axes ... 247
" Forks ... 255
" Hammers ... 246
" Sledges ... 246
" Wedges ... 247
Stove Bolts ... 11
" Bolt Nuts ... 11
Strap Hinges ... 287
Strainers, Suction ... 348, 360, 422
Street Lamps ... 500, 501
" Washers ... 433
Striking Hammers ... 244
" Sledges ... 244
Suction Tee ... 406
Surface Grader ... 466
Sulphate of Copper ... 619
Swage Block ... 183
Swages ... 185
Switch Brooms ... 112
" Locks ... 296, 297

Page.
Switches, Base ... 618
" Pole ... 618
" Telegraph ... 618
" Tramway ... 151
Switching Ropes ... 161
Swivel Hook and Socket ... 162
Swivels, Pipe ... 23
Syphon, Railroad ... 426
" Steam Gauge ... 412

T

Tacks, Carpet ... 108
" Copper ... 108
" Cut ... 107
" Double Pointed ... 106
" Gimp ... 108
" Lace ... 108
" Length of ... 107
" Miners' ... 107
" Swedes ... 107
" Upholsterers' ... 107
Tallow Cans ... 525
Tampico ... 519
Tamping Bars ... 242, 625
" Picks ... 242
" Shovels ... 176
Tanners' Forks ... 255
Tap Bolts ... 22
" Wrenches ... 94
Taps, Bit Brace ... 81
" Blacksmith Taper ... 81
" Brass Tubing ... 81
" Combination ... 82
" Hand ... 78, 79
" Hob ... 82, 83
" Machine Screw ... 79
" Master ... 83
" Nut ... 80
" Patch Bolt ... 81
" Pipe ... 82
" Stay Bolt ... 82
" Stove Bolt ... 81
Tape Fuse ... 450
" Insulating ... 450
Tapes, Measuring ... 278, 279
Tar Brushes ... 117
" Coal ... 520
" Pine ... 520
Tarred Felt, Single ... 511
" " Slaters ... 511
Target Lamps ... 496
Tees, Brass ... 370, 371, 372
" " Reducing ... 370, 371, 372, 374
" Cast Iron ... 350, 372, 373, 374
" " Reducing ... 373, 374
" Female ... 370
" Four Way ... 369
" Galvanized ... 377
" Hydraulic ... 372
" Male ... 370
Malleable ... 368, 369
" Suction ... 406
" Union ... 370
Telegraph Faucets ... 394
" Keys ... 617
" Pliers ... 623
" Shovels ... 181
" Spoons ... 181
" Wire ... 336
Telephone Wire ... 336
Tender Springs ... 51
Thimbles, Spliced ... 165
" Wire Rope ... 164
Threads, Standard ... 77
Throttle Valves ... 538
Ticket Punches ... 443, 444, 445

Page.
Tie Plugs 31
Timber Dolly 462
Tin, Pig 523
Tire Bolt Nuts 11
“ Bolts 10
Tongs, Blacksmith 184
“ Pipe 208
“ Pole 627
“ Rail 240
Tool Bags 624
“ Grinding Machines 231, 232
“ Steel 37
Tools, Blacksmiths' 184, 185, 186, 187
“ Linemen's 624, 625, 626, 627
“ Rock Drill 186
“ Sash 115
“ Track 240, 241, 242
Torpedo Adjuster 48
Torpedoes 46, 47, 48
Torches, Blow 449
“ Locomotive 535
“ Illuminating 448, 449
Tow 518
Track Bolts 32
“ “ Weight of 32
“ Chisels 240
“ Drills 239
“ Gauges 237
“ Jacks 54, 56
“ Punches 240
“ Tools 240, 241, 242
“ Wrenches 241
Tramway Switches 151
Tramways, Overhead 151, 152, 153
Traps, Steam 405
Travelers, Geared 153
“ Plain 153
Traveling Cranes 150
Treads, Stair 127
Trenail Augers 273
Tripoli 521
Trolley Cord 517
“ Overhead 151
Trucks, Barrel 460
“ Cargo 460
“ Hand 459, 460, 461
“ Lumber 462
“ Packing House 461
“ Railroad 460, 461
“ Steamboat 460
“ Stevedore 460
“ Store 459
“ Warehouse 459
Tube Brushes 533, 534
“ Cleaner 535
“ Expanders 533
“ Scrapers 534
Tubes, Belt Bunch 441
“ Boiler 340
“ Brass 331
“ Copper 331
“ Glass 413
“ Lamp 476
“ Stay 339
Tubing, Brass 331, 332
“ Copper 331
“ Rubber 451
“ Steel 330
Tubs, Water 323
Tubular Lamps 498, 500, 501
“ Lanterns 490, 491
Tufting Buttons 472
Turkey Dusters 119
Turnbuckles 23
Turntable, Overhead 152
Turpentine 518
Tuyers 195
Twine 518

Page.
Twist Drill Gauges 628
“ “ Sockets 73
“ Drills 69, 70, 71, 74

U

Union Ells 369
“ Brass 371
“ Flange C. I. 373, 377
“ “ M. I. 377
“ Galvanized 377
“ Malleable 369
“ Tees 370
Urinal Pipes 528
Urinals 527, 528, 529

V

Valve Chambers 537
“ Discs 512
“ Seat Machine 169
Valves, Ammonia 387
“ Angle .... 382 to 388
“ Back Pressure 392
“ Brass .... 382 to 389
“ “ Extra Heavy 384
“ Check, Brass 382, 383, 391
“ “ Iron 391
“ “ Jenkins Bros. 391
“ Cross, Brass 383, 386, 388
“ “ Iron 384, 385, 386
“ Dimensions of 390
“ Hose End 386, 387
“ Gate, Brass 387, 388, 389
“ “ Iron 387, 388, 389
“ “ Jenkins Bros. 387
“ Globe Brass .... 382 to 388
“ “ Iron 384, 385, 386
“ Iron Body 384, 385, 386, 388
“ Jenkins Bros. 386, 387
“ Locomotive 408, 409
“ Pop 408, 409
“ Pump 399, 401
“ Radiator 381, 382
“ Reducing 399, 400, 402, 403
“ Rubber 411
“ Throttle 538
“ Safety 392, 408, 409
“ Water Relief 399, 400, 408, 409
“ Whistle 410
Varnish Brushes 114
“ Railroad 329
“ Roof 511
Vise, Drill and Anvil 573
Vises, Bulldog 217
“ Coach Makers' 217
“ Combination 211, 212
“ Chipping, Heavy 218
“ Drilling Machine 577
“ Filers' 217
“ Hand 624
“ Howard 212
“ Leg 220
“ Lineman's 624
“ Oval Slide 219
“ Parker 211, 213, 214, 215, 218, 219
“ Parallel Leg 220
“ Pipe 210, 211, 212
“ Prentiss 216, 217, 218
“ Repairs, Parker's 213
“ Shaper 586
“ Solid Box 220
“ Victor 215
“ Vulcan 219
Vulcabeston Gaskets 510
“ Rings 512
“ Sheet Packing 512

Page.

W

Wading Leggins 120
“ Pants 120
Wagons, Baggage 457
“ Express 457, 458
Wall Brackets 612
“ Brushes 115
“ Frames 612
Washer Cutters 445
Washers, Car 113
“ Cast Iron 24
“ Plate 24
“ Street 433
“ Vulcabeston 522
Waste 489
“ Cans 130
Water Buckets 124
“ Carriers 132
“ Columns 410
“ Cooler Stands 123
“ Coolers 121, 122, 123
“ Filters 121
“ Gauges 413
“ Grates 339
“ Jars 124
“ Pails 124, 125
“ Pots 132
“ Tubs 323
Weather Strips 233
Webbing 518
Wedges, Coal 244
“ Stone 247
Weighmaster's Beam 237
Weight of Blank Bolts 5
“ “ Carriage Bolts 9
“ “ Coach Screws 14
“ “ Iron 40, 41
“ “ Lag Screws 14
“ “ Machine Bolts 4
“ “ Plates 43
“ “ Planished Iron 45
“ “ Sheet Copper 333
“ “ Sheets 43
“ “ Steel 40, 42
Wells Light 448
Wheelbarrows .... 452 to 456
Whisk Brooms 112
Whistle, Chime 410
“ Plain 410
“ Valves 410
White Lead 329
Whitewash Brushes 117
“ Heads 116
Wick Oiler 396
Wicks, Candle 489
“ Head Light 489
“ Lamp 489
“ Lantern 489

Page.

Winches, Hoisting 145
Window Glass 350
“ Lifts 300
“ Locks 301
Wire, Brass 335
“ Connecting 450
“ Copper 335, 336
“ Clamps 166
“ Clips 165
“ Cloth 49, 50
“ Cutting 336
“ Fastenings 163
“ Galvanized 336
“ Gauges 628, 629
“ Iron 336
“ Leading 450
“ Nails 104, 105
“ Reels 450, 627
“ Rope .... 156 to 162
“ Steel 336
“ Straightening 336
“ Telegraph 336
“ Telephone 336
“ Thimble 164
“ Tinned 336
Wood Alcohol 518
“ Brackets 613
“ Pins 613
“ Posts 500, 501
“ Screws 15, 16
Wool, Mineral 511
“ Steel 511
Wrenches, Alligator 206
“ Baxter 206
“ Champion 209
“ Coe's 206
“ Combination 206
“ Drop Forged 203, 204, 205
“ Robbins 209
“ Stillson 207
“ Tap 94
“ Track 241
“ Trimo 207
“ Vulcan 209

Y

“Y” Bends, Galvanized 377
“ Branches, Cast Iron 349, 374
“ “ Malleable 368

Z

Zinc Battery 619
“ Sheet 523

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